Access DB# 101380

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 8-15-03
Art Unit: 1752 Phone Number 30 5-0504 Serial Number: 09/995,921
Mail Box and Bldg/Room Location: 9805 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

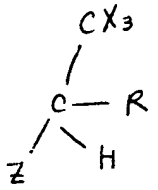
Title of Invention: Photoresist composition

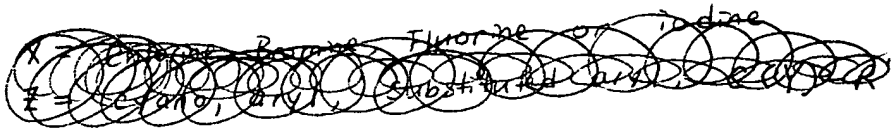
Inventors (please provide full names): Koes, Thomas A. ; Johnson, Todd

Earliest Priority Filing Date: 11-28-'01

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search for a photoresist or photosensitive composition comprising the following compound :





For the definitions of the variables, please see Claim # 1.

(Cl. # 4 lists more specific examples for the compound)

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STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
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Searcher Location:	Structure (#)	✓ (1)	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	✓ (and)	Dr.Link	
Date Completed: 8-19-03	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 10	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 115	Other		Other (specify)	

PTO-1590 (8-01)

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=> display history full l1-


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L3              SCR 1364
L4           38 SEA SSS SAM L1 AND L3
L5         5569 SEA SSS FUL L1 AND L3
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L7        141004 SEA PHOTORESIST? OR RESIST OR RESISTS OR PHOTOMASK? OR
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L8            77 SEA L6 AND L7

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L16            1 SEA L15 AND X/ELS

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L18            2 SEA L17 AND L7
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L26             0 SEA L25 AND L7
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L28        247382 SEA CROSSLINK? OR CROSS?(2A)LINK?
L29             2 SEA L8 AND L27
L30            13 SEA L8 AND L28
L31           399 SEA STRIP?(3A)ENHANC?
L32             0 SEA L8 AND L31
L33             0 SEA L8 AND STRIP?

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L39             6 SEA L8 AND L38
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L41            35 SEA L20 NOT L40
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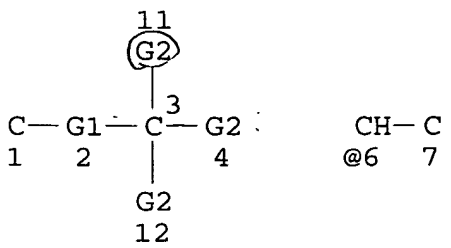


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VAR G2=CL/BR/I
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NSPEC IS RC AT 1
NSPEC IS RC AT 7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE
L3 SCR 1364
L5 5569 SEA FILE=REGISTRY SSS FUL L1 AND L3

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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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=> d l40 1-18 cbib abs hitstr hitind

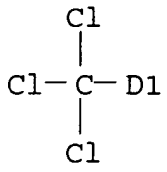
L40 ANSWER 1 OF 18 HCA COPYRIGHT 2003 ACS on STN
136:409028 **Photoresist** composition with improved stripping properties. Koes, Thomas A.; Johnson, Todd (Shipley Co. L.L.C., USA). Eur. Pat. Appl. EP 1209528 A1 20020529, 16 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2001-309903 20011123. PRIORITY: US 2000-PV253531 20001128.

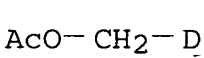
AB This invention disclosed **photoresist** compns. having improved stripping properties. The compns. contain a polymeric binder, photocurable components, photoinitiators, a strip enhancer and optionally a crosslinking agent, wherein the strip enhancer is non-polymerizable with the polymeric binder or the crosslinking agent. Also disclosed are methods of enhancing the strippability of **photoresist** compns. and methods for manufg. printed wiring boards using such **photoresist** compns.

IT **55135-32-5**, Trichloromethylbenzyl acetate
(strip enhancer in neg. **photoresist** compn.)

RN 55135-32-5 HCA

CN Benzenemethanol, ar-(trichloromethyl)-, acetate (9CI) (CA INDEX NAME)

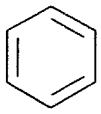


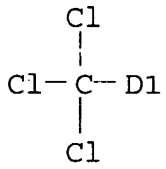


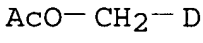
IC ICM G03F007-42
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST neg **photoresist** strip enhancer
IT Acrylic polymers, uses
(binder resin in neg. **photoresist** compn.)
IT Negative **photoresists**
(neg. **photoresist** compn. contg. trip enhancer)
IT 1076-97-7, 1,4-Cyclohexane dicarboxylic acid
(org. acid used in neg. **photoresist** compn.)
IT 428860-93-9P
(photo-curable component in neg. **photoresist** compn.)
IT **55135-32-5**, Trichloromethylbenzyl acetate
(strip enhancer in neg. **photoresist** compn.)

L40 ANSWER 2 OF 18 HCA COPYRIGHT 2003 ACS on STN
136:409027 **Photoresist** composition with improved stripping properties. Koes, Thomas A. (Shipley Company LLC, USA). Eur. Pat. Appl. EP 1209527 A1 20020529, 14 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2001-309900 20011123. PRIORITY: US 2000-PV253452 20001128.
AB This invention disclosed **photoresist** compns. having improved stripping properties. The compns. contain a polymeric binder, photocurable components, photoinitiators, an org. acid and optionally a crosslinking agent, wherein the org. acid is non-polymerizable with the polymeric binder or the crosslinking agent. Also disclosed are methods of enhancing the strippability of **photoresist** compns. and methods for manufg. printed wiring boards using such **photoresist** compns.
IT **55135-32-5**, Trichloromethylbenzyl acetate

(strip enhancer in neg. **photoresist** compn.)
RN 55135-32-5 HCA
CN Benzenemethanol, ar-(trichloromethyl)-, acetate (9CI) (CA INDEX NAME)







IC ICM G03F007-42
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST neg **photoresist** org acid
IT Acrylic polymers, uses
(binder resin in neg. **photoresist** compn.)
IT Negative **photoresists**
(neg. **photoresist** compn. contg. org. acid)
IT Acids, uses
(org.; neg. **photoresist** compn. contg.)
IT 111-20-6, Sebacic acid, uses 1076-97-7, 1,4-Cyclohexane dicarboxylic acid
(org. acid used in neg. **photoresist** compn.)
IT 428860-93-9P
(photo-curable component in neg. **photoresist** compn.)
IT **55135-32-5**, Trichloromethylbenzyl acetate
(strip enhancer in neg. **photoresist** compn.)

L40 ANSWER 3 OF 18 HCA COPYRIGHT 2003 ACS on STN
123:23619 Precision patterning materials and patterning of **resists** thereof. Hashimoto, Kazuhiko (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06267812 A2 19940922 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-51953 19930312.
AB The patterning involves (1) coating on a substrate with a silicon compd., novolak polymers, and an acid latent soln. contg. triphenylsulfonium salt to give a Si-contg. org. **resist** film, (2) electron beaming the **resist** film, (3) heating to

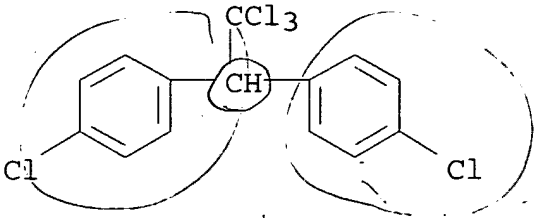
use EP '391 instead

crosslink between the Si compds. and novolak polymers to give a Si-contg. polymer, (4) evapg. or sublimating the Si compds. from the electron-unexposed portions of the **resist** film, and (5) etching to remove the electron-unexposed portions in the film to give patterned **resist**. The process provides the patterns with high sensitivity, resoln., and contrast.

IT **50-29-3D**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, salts
(acid-latent **crosslinking** catalyst for novolak/silicon-contg. polymer mixt.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM H01L021-027
ICS G03F007-075; G03F007-20; G03F007-40

CC 76-2 (Electric Phenomena)
Section cross-reference(s): 38

ST silicon compd novolak polymer **crosslinking resist** ; triphenylsulfonium salt acid latent catalyst **crosslinking**

IT Siloxanes and Silicones, properties
(**crosslinked** copolymers with novolak polymers for **resists**)

IT **Crosslinking** agents
(electron-beam-activating acid-latent triphenylsulfonium salts for)

IT Electron beam
(for activation of acid-latent catalyst for **crosslinking** of polymers for **resists**)

IT **Resists**
(silicone-novolak copolymer with acid latent catalyst for formation of)

IT Phenolic resins, properties
(novolak, **crosslinked** copolymers with silicon-contg. materials for **resists**)

IT **50-29-3D**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, salts 18393-55-0D, salts
(acid-latent **crosslinking** catalyst for novolak/silicon-contg. polymer mixt.)

IT 163964-80-5D, **crosslinked** copolymers with novolak polymers
(for **resists**)

L40 ANSWER 4 OF 18 HCA COPYRIGHT 2003 ACS on STN
122:303010 **Resist** coating composition. Murata, Makoto; Oota,

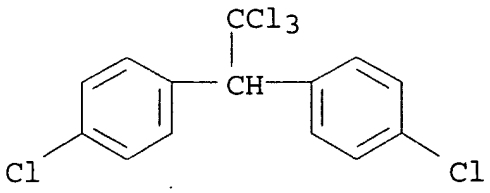
Toshuki; Tsuji, Akira (Japan Synthetic Rubber Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06130665 A2 19940513 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-276290 19921014.

AB Pos.-working **resist** coating compn. comprises (1) alkali-sol. resin (A), (2) radiation-sensitive acid-generating agent, (3) a compd. which controls the alkali-soly. of the resin A and is decompd. in the presence of an acid to lose or lower the soly.-controlling effect of A or to accelerate the alkali-soly. of the resin A, and (4) R1COR2 (I; R1-2 = hydrocarbon and sum of C nos. of R1-2 = 5-12, or R1 and R2 may form a ring) as a solvent. Pos.-working **resist** coating compn. comprises (1) alkali-insol. resin with .gtoreq.1 acid-dissociative groups selected from substituted Me, 1-substituted Et, silyl, germyl alkoxy carbonyl and acyl, which becomes alkali-sol. in acid dissocn. of the groups, (2) a radiation-sensitive acid-generating agent and (3) I as a solvent. Neg.-working **resist** coating compn. comprises (1) alkali-sol. resin (A), (2) radiation-sensitive acid-generating agent, (3) a compd. which **crosslinks** the resin A in the presence of an acid, and (4) I as a solvent. The compn. shows good coatability, stability, and is sensitive to various kinds of radiations, and useful for **resist** giving fine patterns.

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties
(acid-generator, **resist** using)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-038
ICS G03F007-004; G03F007-028; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST **resist** coating compn

IT **Resists**
(radiation-sensitive, coating soln. for, with good storage stability)

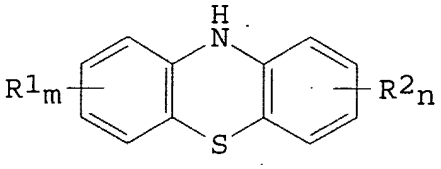
IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate 119666-27-2
(acid-generator, **resist** using)

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties
(acid-generator, **resist** using)

IT 3089-11-0

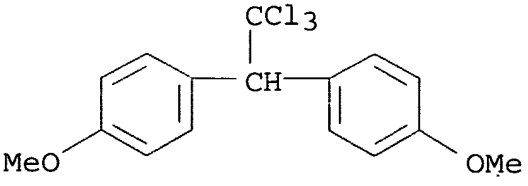
(**crosslinking** agents, **resist** contg.)
IT 5292-43-3D, reaction product with polyhydroxystyrene 34619-03-9D, Di-tert-butylcarbonate, reaction product with polyhydroxystyrene 59269-51-1, Polyhydroxystyrene 59269-51-1D, Polyhydroxystyrene, deriv.
(**resist** from)
IT 106-35-4, 3-Heptanone 110-43-0, 2-Heptanone 502-42-1, Cycloheptanone 823-76-7, Cyclohexyl methyl ketone 7379-12-6
(solvent, for **resist** coating compn.)

L40 ANSWER 5 OF 18 HCA COPYRIGHT 2003 ACS on STN
121:96051 Negative-working **photoresists** compositions useful for making semiconductor circuits. Kitaori, Tomoyuki; Koyanagi, Takao; Fukunaga, Masanori (Nippon Kayaku Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06035194 A2 19940210 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-213264 19920720.
GI



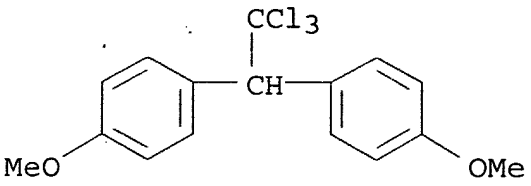
I

AB The title compns. comprise an alkali-sol. resin, a photoacid-generating agent, a **crosslinking** agent which **crosslinks** the resin under acidic conditions, a sensitizer I [m, n = 1, 2; R1, R2 = CR3R4Ph, CR5R6CR7R8Ph (R3-8 = H, lower alkyl)] which provides photosensitivity in near UV regions to the photoacid-generating agent. The compns. useful for making semiconductor integrated circuits show high sensitivity toward radiations and provide high resoln. patterns with good thermal resistance and dry etching resistance. Thus, a **photoresist** comprised Maruka Lyncur S-2P (polyhydroxystyrene), CBr3SO2Ph, Cymel 1123, and Antage STDP-N.
IT **72-43-5**, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane
(photoacid generator, **photoresist** contg.)
RN 72-43-5 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)

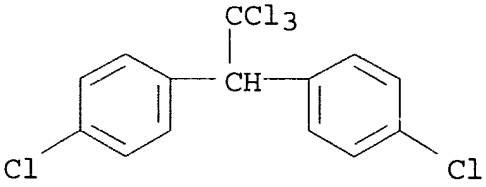


IC ICM G03F007-038
ICS G03F007-004; G03F007-029; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST phenothiazine deriv sensitizer **photoresist**; **crosslinking** agent **photoresist**; photoacid generating agent **photoresist**
IT Phenolic resins, uses
(**photoresist** from)
IT **Resists**
(photo-, neg.-working, contg. phenothiazine derivs. sensitizer)
IT 9003-08-1, Cymel 303 9011-05-6, UFR 65 15968-37-3, Cymel 1170 66810-89-7, Cymel 1123
(**crosslinking** agent, **photoresist** contg.)
IT **72-43-5**, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane 17025-47-7, Tribromomethylphenylsulfone 52434-90-9
(photoacid generator, **photoresist** contg.)
IT 24979-71-3, Maruka Lyncur CMM 24979-74-6, Maruka Lyncur CST 70 25086-36-6, m-Cresol-formaldehyde copolymer 54579-44-1, Bisphenol A-p-tert-butylphenol-formaldehyde copolymer
(**photoresist** from)
IT 24979-70-2, Poly(p-hydroxystyrene)
(**photoresist** from , Maruka Lyncur S 2P)
IT 38201-66-0P
(prepn. of, sensitizer, of photoacid-generator, **photoresist** contg.)
IT 693-36-7, Antage STDP-N
(sensitizer, of photoacid-generator, **photoresist** contg.)

L40 ANSWER 6 OF 18 HCA COPYRIGHT 2003 ACS on STN
117:36610 Acid-hardenable **photoresist**. Thackeray, James W.; Orsula, George W.; Canistro, Dianne; Mcilnay, Susan E. (Shipley Co., Inc., USA). Eur. Pat. Appl. EP 462391 A2 19911227, 20 pp. DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1991-107484 19910508. PRIORITY: US 1990-540116 19900619.
AB A method of forming a **photoresist** image comprises use of a neg.-acting, acid-hardenable, deep-UV **photoresist** comprising a phenolic resin having ring-bonded hydroxyl groups, a thermally activated **crosslinking** agent that is an etherified aminoplast, and a photosensitive acid generator. The molar ratio of the ring-bonded hydroxyl groups of the phenolic resin to other groups of the aminoplast is controlled, permiting optimization of the properties such as optical absorbance, dissoln. rate, photospeed, contrast, resoln., and sidewall angle.
IT **72-43-5**, Methoxychlor
(photoacid generator,s for **photoresist** compn.)
RN 72-43-5 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses
(photosensitive acid generator, for **photoresist** compns.)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-038
ICS G03F007-029
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photoresist** photosensitive acid generator aminoplast
IT Rubber, synthetic
(photosensitive acid generator, for **photoresist** compns.)
IT **Resists**
(photo-, acid-hardenable)
IT 3089-11-0 9003-08-1D, alkoxylated 9016-83-5, Cresol-formaldehyde copolymer 59269-51-1, Polyvinylphenol
(acid-hardenable **photoresist** compns. contg.)
IT 72-55-9, uses 52434-90-9, Tris[2,3-dibromopropyl]isocyanurate
(photoacid generator, for **photoresist** compn.)
IT **72-43-5**, Methoxychlor
(photoacid generator,s for **photoresist** compn.)
IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses 58-89-9 72-54-8, 1,1-Bis[p-chlorophenyl]-2,2-dichloroethane 1929-82-4, 2-Chloro-6-(trichloromethyl)pyridine 2921-88-2, Dursban 3064-70-8, Hexachlorodimethylsulfone 3194-55-6, 1,2,5,6,9,10-Hexabromocyclododecane 4101-68-2, 1,10-Dibromodecane 81012-95-5 112367-96-1
(photosensitive acid generator, for **photoresist** compns.)

L40 ANSWER 7 OF 18 HCA COPYRIGHT 2003 ACS on STN
116:140144 **Photoresists** for broadband light source. Kasuga,

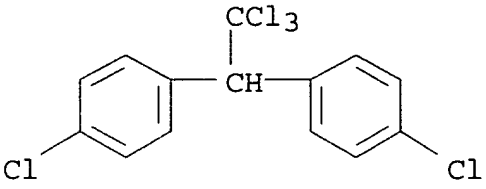
Taku (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 03276156 A2 19911206 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-78189 19900327.

AB The title **resists** contain .gtoreq.1 photosensitive agents sensitive at different wavelengths. These **resists** are useful in fabrication of **resist** patterns with square profile. Thus, a **resist** based on novolak resin and contg. 1,2-quinonediazide-4-sulfonate ester (sensitive to longer wavelength) (I), alkoxymethylmelamine (II) (sensitive to shorter wavelength), and 1,1,1-trichloro-2,2-di(p-chlorophenyl)ethane (III) (as acid-generating agent activated by shorter wavelength), was patterned by exposure to deep- to near-UV broad-band light source. At the surface, **crosslinking** due to II and III predominates and a layer with reduced soly. is formed. Under the surface, the shorter wavelength is absorbed by the **resist**, and dissoln. produced by decompn. of I predominates. This provided **resist** pattern with square profile and .ltoreq.0.35 .mu.m resoln.

IT **50-29-3**, 1,1,1-Trichloro-2,2-di(p-chlorophenyl)ethane, uses
(**photoresists** for broadband light source contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-004
ICS G03F007-022; G03F007-038; G03F007-26; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** broadband light source exposure

IT Phenolic resins, uses
(**photoresists** for broadband light source contg. multiple photosensitive agents and, for **resist** patterns with square profile)

IT **Resists**
(photo-, for broadband light source, for **resist** patterns with square profile, multiple photosensitive materials contained in)

IT 108-78-1D, 1,3,5-Triazine-2,4,6-triamine, alkoxymethyl derivs.
(**photoresists** for broad band lightsource contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)

IT **50-29-3**, 1,1,1-Trichloro-2,2-di(p-chlorophenyl)ethane, uses

(**photoresists** for broadband light source contg. photosensitive agents for longer wavelength and, for **resist** patterns with square profile)

IT 20546-03-6D, 1,2-Naphthoquinonediazide-5-sulfonic acid, esters
(**photoresists** for broadband light source contg. photosensitive agents for shorter wavelength and, for **resist** patterns with square profile)

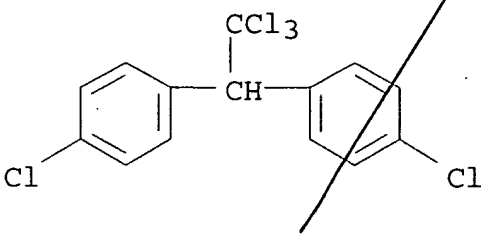
L40 ANSWER 8 OF 18 HCA COPYRIGHT 2003 ACS on STN
116:48952 Photosensitive resin compositions. Tsumori, Toshiro (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 03229255 A2 19911011 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-23712 19900202.

AB The compns. contain acid-activated **crosslinking** agent, photoactivated acid generator, base resin, and added photobleachable dye. Alternatively, the compns. may contain acid-decompd. dissoln. inhibitor, photoactivated acid generator, base resin, and photobleachable dye. The light-quenching dye are typically disilanes R1R2R3SiSiR4R5R6 (R1-6 = aryl, alkyl). Addn. of these photodecomposable dyes increases the light transmission in exposed part and increases the resoln. of formed pattern.

IT **50-29-3**, DDT, uses
(as photoactivated acid generator, chem. amplification **photoresists** contg. photodecomposable dye and)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-004
ICS G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** chem amplification photodecomposable dye

IT **Resists**
(photo-, chem. amplification, disilane photodecomposable dye, for increased resoln.)

IT 9003-08-1
(as acid-activated **crosslinking** agent, chem. amplification **photoresists** contg. photodecomposable dye and)

IT 80-05-7D, Bisphenol A, t-BOC adduct
(as acid-decompd. dissoln. inhibitor, chem. amplification **photoresists** contg. photodecomposable dye and)

IT **50-29-3**, DDT, uses

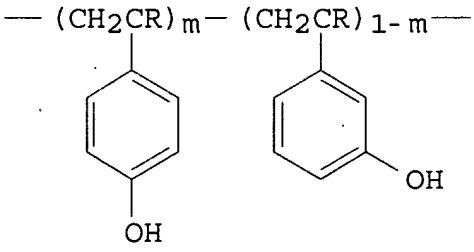
(as photoactivated acid generator, chem. amplification **photoresists** contg. photodecomposable dye and)

IT 59269-51-1, Poly(vinylphenol)
(chem. amplification **photoresists** contg. photodecomposable dye and)

IT 1172-76-5
(photodecomposable dye, chem. amplification **photoresists** contg., for increased resoln.)

L40 ANSWER 9 OF 18 HCA COPYRIGHT 2003 ACS on STN
114:218113 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Kiyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02253262 A2 19901012 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-73994 19890328.

GI

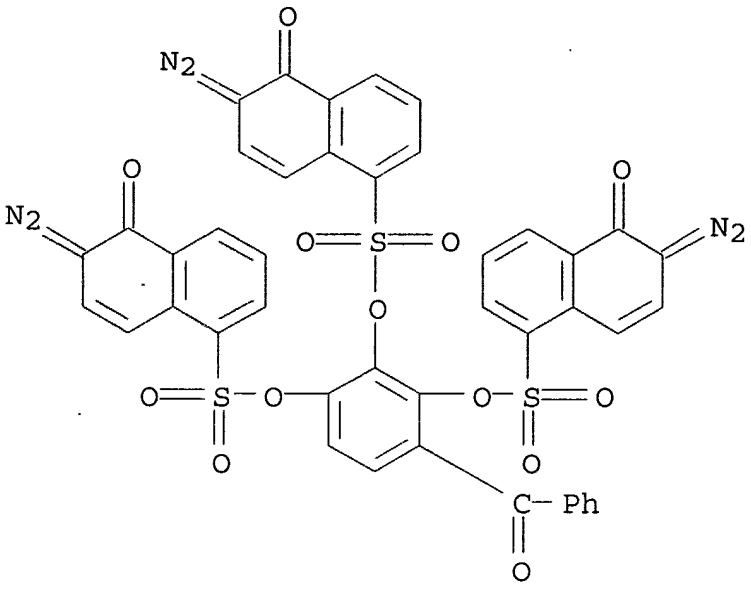


I

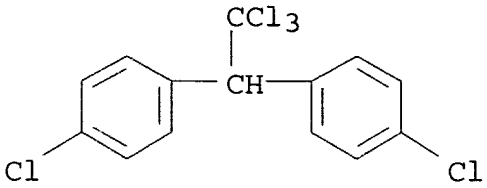
AB **Photoresist** compns. consist of polymers I (R = H, C1-5 alkyl; m = 0.95-0.75), photosensitive agents, and solvents. These compns. are developable with alk. developers and provide highly accurate fine patterns without loss of thickness. Thus, 3 g 13:87 (mol) m-hydroxystyrene-p-hydroxystyrene copolymer and 0.62 g naphthoquinone-1,2-diazide-5-sulfonate ester of 2,3,4-**trihydroxybenzophenone** were dissolved and applied to a Si wafer, prebaked, exposed to UV through a Cr **mask**, developed with aq. Me4NOH, and postbaked to obtain a pattern with rectangular profile having 0.75-.mu.m lines and spaces, with high sensitivity and 90% retention of layer thickness.

IT **5610-94-6**
(**photoresists** contg. hydroxystyrene copolymers and)

RN 5610-94-6 HCA
CN 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, 4-benzoyl-1,2,3-benzenetriyl ester (9CI) (CA INDEX NAME)



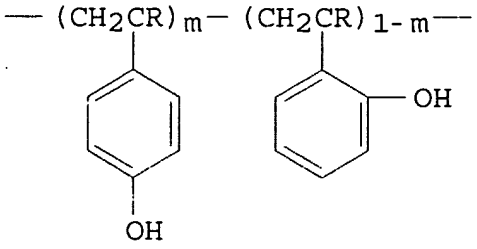
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous
(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-022
ICS G03F007-008; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photoresist** hydroxystyrene copolymer alkali developable
IT **Resists**
(photo-, hydroxystyrene copolymer contained in, alkali-developable)
IT **5610-94-6** 75742-13-1, 3,3'-Diazidodiphenylsulfone
(**photoresists** contg. hydroxystyrene copolymers and)
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous
(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)

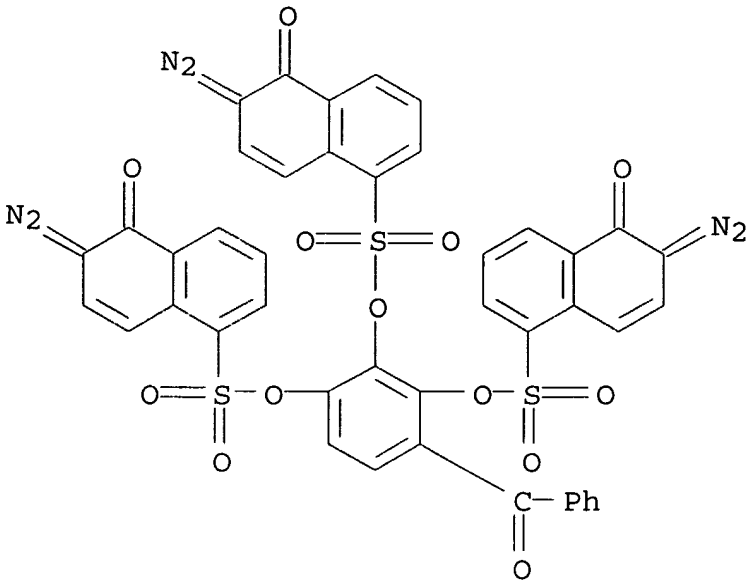
IT 133793-11-0
(**photoresists** contg. hydroxystyrene copolymers and acid-generating agents and)
IT 133685-94-6, o-Hydroxystyrene-p-hydroxystyrene copolymer
(**photoresists** contg., alkali-developable)

L40 ANSWER 10 OF 18 HCA COPYRIGHT 2003 ACS on STN
114:218112 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Kiyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02253261 A2 19901012 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-73993 19890328.
GI

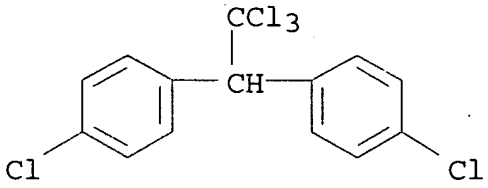


I

AB **Photoresist** compns. consist of polymers I (R = H, C1-5 alkyl; m = 0.40-0.60), photosensitive agents, and solvents. These compns. are developable with alk. developers and provide highly accurate fine patterns without loss of thickness. Thus, 3 g 42:58 (mol) o-hydroxystyrene-p-hydroxystyrene copolymer and 0.62 g naphthoquinone-1,2-diazide-5-sulfonate ester of 2,3,4-**trihydroxybenzophenone** were dissolved and applied to a Si wafer, prebaked, exposed to UV through a Cr **mask**, developed with aq. Me4NOH, and postbaked to obtain a pattern with rectangular profile having 0.75-.mu.m lines and spaces, with high sensitivity and 93% retention of layer thickness.
IT **5610-94-6**
(**photoresists** contg. hydroxystyrene copolymers and)
RN 5610-94-6 HCA
CN 1-Naphthalenesulfonic acid, 6-diazo-5,6-dihydro-5-oxo-, 4-benzoyl-1,2,3-benzenetriyl ester (9CI) (CA INDEX NAME)



IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous
(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



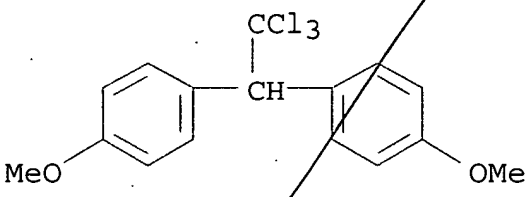
IC ICM G03F007-022
ICS G03F007-008; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST **photoresist** hydroxystyrene copolymer alkali developable
IT **Resists**
(photo-, hydroxystyrene copolymer contained in, alkali-developable)
IT **5610-94-6** 75742-13-1, 3,3'-Diazidodiphenylsulfone
(**photoresists** contg. hydroxystyrene copolymers and)
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous
(**photoresists** contg. hydroxystyrene copolymers and acetylene compd. and)

IT 15968-37-3
(**photoresists** contg. hydroxystyrene copolymers and acid-generating agents and)
IT 133685-94-6
(**photoresists** contg., alkali-developable)

L40 ANSWER 11 OF 18 HCA COPYRIGHT 2003 ACS on STN
113:162352 Chemically amplified **resists** for i-line and g-line applications. Berry, A. K.; Feely, W. E.; Thompson, S. D.; Calabrese, G. S.; Sinta, R.; Lamola, A. A.; Thackeray, J. W.; Orsula, G. W. (Rohm and Haas Co., Spring House, PA, 19477, USA). Proceedings of SPIE-The International Society for Optical Engineering, 1262(Adv. Resist Technol. Process. 7), 575-84 (English) 1990. CODEN: PSISDG. ISSN: 0277-786X.

AB Phenothiazine and benzophenothiazine derivs. which are useful as i-line and g-line photosensitizers for a class of chem. amplified **crosslinked resists** were evaluated. Data supporting an electron transfer mechanism of sensitization from the excited state of the sensitizer to the acid generator are provided. Initial lithog. screening demonstrates the potential for both high sensitivity and submicron resoln. in these systems.

IT **72-43-5**, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane
(neg. **resist** compn. contg. novolak and photosensitizer and, for i-line and g-line lithog.)
RN 72-43-5 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



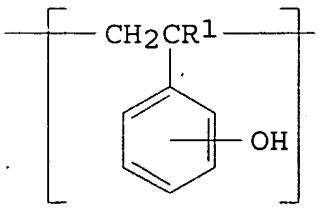
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 22
ST phenothiazine benzophenothiazine photosensitizer **photoresist** submicron; lithog submicron photosensitizer **photoresist**; chem amplified **photoresist** photosensitizer
IT Electron exchange
(from photosensitizer acid generator in **photoresist** for submicron lithog.)
IT Sulfonium compounds
(triaryl, **photoresists** contg. novolak and photosensitizer and, electron transfer mechanism of)
IT **Resists**
(photo-, chem. amplified, electron transfer from photosensitizer to acid generator for i-line and g-line submicron lithog.)
IT **72-43-5**, 2,2-Bis(4-methoxyphenyl)-1,1,1-trichloroethane

6542-67-2 52434-90-9
(neg. **resist** compn. contg. novolak and photosensitizer and, for i-line and g-line lithog.)

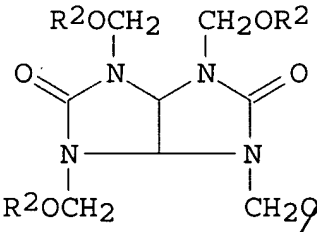
IT 92-30-8, 2-(Trifluoromethyl)phenothiazine 92-39-7, 2-Chlorophenothiazine 92-84-2, Phenothiazine 225-83-2, 12H-Benzo[a]phenothiazine 226-06-2, 7H-Benzo(c)phenothiazine 258-08-2, 12H-Benzo(b)phenothiazine 1207-72-3, N-Methylphenothiazine 1771-18-2, 2-Methoxyphenothiazine 6631-94-3, 2-Acetylphenothiazine
(photosensitization of i-line and g-line **resists** by, electron transfer to acid generator in)

L40 ANSWER 12 OF 18 HCA COPYRIGHT 2003 ACS on STN
113:106450 Heat-resistant **photoresist** composition for far ultraviolet or excimer laser beam. Totoko, Masaaki; Yamamoto, Takashi; Nagaoka, Keiko; Kyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02015270 A2 19900118 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-165127 19880704.

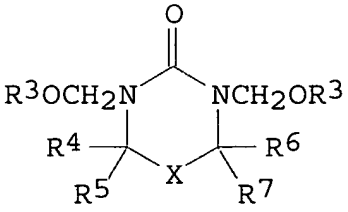
GI



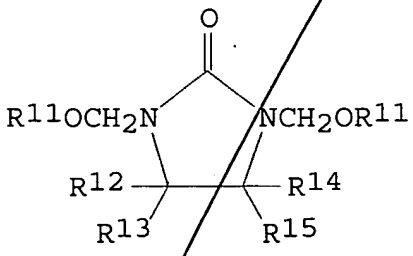
I



II



III

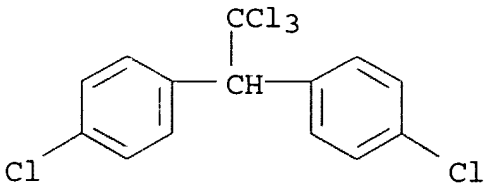


IV

AB The title compn. contains a phenolic polymer I (R1 = C1-5 alkyl), .gtoreq.1 **crosslinking** agents selected from II, III, and IV (R2, R3 = H, C1-5 alkyl, R4-7 = H, OH, C1-5 alkyl, C1-5 alkoxy; X = O, CH2, R8N, R9R10C; R8 = H, C1-5 alkyl; R9, R10 = H, OH, C1-5 alkyl; R11 = H, C1-5 alkyl, R12-15 = H, OH, C1-5 alkyl, C1-5 alkoxy), and a compd. generating acid under actinic ray irradn. Thus, a mixt. of poly(p-hydroxystyrene), II (R1 = Bu), and 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane in Et cellosolve acetate was spin-coated onto a hexamethylenedisilazane-coated Si wafer, prebaked, far UV-irradiated, heated, developed with Me4NOH, and post-baked to give a precise pattern.

IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses

and miscellaneous
(acid-generating agent, for **photoresist**)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-038
ICA G03F007-20
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST **photoresist** hydroxystyrene polymer semiconductor device; far UV excimer laser **photoresist**; polyhydroxystyrene **photoresist** acetyleneurea acid generator; bischlorophenylchloroethane **photoresist** semiconductor device
IT Semiconductor devices
(fabrication of, **photoresists** for)
IT **Resists**
(photo-, hydroxystyrene polymer and alkyleneurea or alkyneurea and acid-generating agent using)
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous 313-39-3, Diphenyliodonium tetrafluoroborate 57835-99-1, Triphenylsulfonium hexafluorophosphate
(acid-generating agent, for **photoresist**)
IT 1678-43-9
(acid-generating agent, for **photoresist**, for semiconductor device)
IT 13747-15-4
(**photoresist** from, for far UV or excimer laser, with heat resistance)
IT 2669-72-9
(**photoresist** from, for far-UV or excimer laser, with heat resistance)
IT 24979-74-6, p-Hydroxystyrene-styrene copolymer
(**photoresist** from, for use with UV or excimer laser, heat-resistant)
IT 15968-37-3 24979-70-2, Poly(p-hydroxystyrene)
(**photoresist** from, using far UV or excimer laser, with heat resistance, for semiconductor device)

L40 ANSWER 13 OF 18 HCA COPYRIGHT 2003 ACS on STN
108:229630 Thermally stable microplastic structure fabrication for semiconductor device. Feely, Wayne Edmund (Rohm and Haas Co., USA).

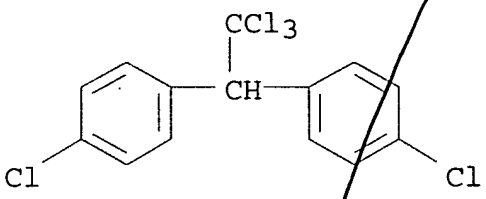
Eur. Pat. Appl. EP 232973 A2 19870819, 27 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1987-300220 19870112. PRIORITY: US 1986-818571 19860113.

AB A process for forming thermally stable microplastic structures is comprised of depositing a photosensitive coating compn. comprising 40-99.9% of a **crosslinkable** polymer and 0.1-60% of a photoacid generator, the percentages being based on the wt. of the **crosslinkable** polymer plus the photoacid generator, on a substrate, exposing a portion or portions of the coating to actinic radiation through .gtoreq.1 suitable **photomask**, heating the exposed coating to 70-120.degree. to **crosslink** the exposed coating, and removing the uncrosslinked coating using an aq. base soln. to produce a microplastic structure that is stable to temp. .gtoreq.200.degree.. Three dimensional, thermally stable, microplastic structures can thus be prepd., which have a variety of configurations suitable for a wide range of uses in elec., chem., mech., and optical devices, such as smart sensors integral to Si chip devices.

IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous
(photoacid generator, photosensitive resin compn. contg., for prepg. three-dimensional thermally stable microplastic structures)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-08
ICS G03F007-10

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST UV photoacid generator microplastic structure; thermally stable microplastic structure **photoresist**; three dimensional image semiconductor device

IT **Resists**
(photo-, contg. UV photoacid generator, for prepg. three-dimensional thermally stable microplastic structures)

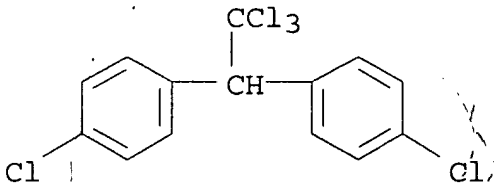
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses and miscellaneous 52434-90-9, Tris(2,3-dibromopropyl)isocyanurate 53208-22-3, Diazonaphthoquinone
(photoacid generator, photosensitive resin compn. contg., for prepg. three-dimensional thermally stable microplastic structures)

L40 ANSWER 14 OF 18 HCA COPYRIGHT 2003 ACS on STN
108:46859 Negative-working **photoresist** and negative images formation using some. (Rohm and Haas Co., USA). Jpn. Kokai Tokkyo Koho JP 62164045 A2 19870720 Showa, 19 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-4214 19870113. PRIORITY: US 1986-818430 19860113.

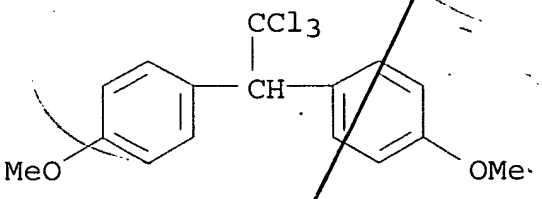
AB The neg. **photoresist** compn. consists of an acid-hardenable resin and a photosensitive halogen-contg. acid-forming org. substance in an amt. sufficient to yield a thermally stable image, the latter substance absorbing actinic light at 210-99 nm, being miscible with the acid-hardenable resin, developable in an aq. alk. soln., and capable of yielding a halo acid on irradiating with far UV to effect **crosslinking** while heating. Neg. image formation is effected by coating a substrate with the above compn., baking at 90.degree., imagewise exposing with far UV, developing with an aq. alk. developer soln., and baking at elevated temp.

IT **50-29-3**, properties **72-43-5**
(photochem. acid-generating compd., for **photoresists**)

RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



RN 72-43-5 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



IC ICM G03C001-71
ICS G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

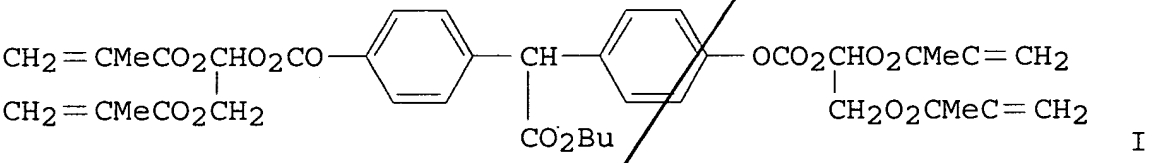
ST **photoresist** neg acid hardening

IT **Resists**
(photo-, neg.-type, thermally stable, contg. photochem. acid-generating compd.)

IT 24463-19-2 52434-90-9 57835-99-1 57840-38-7 81012-95-5

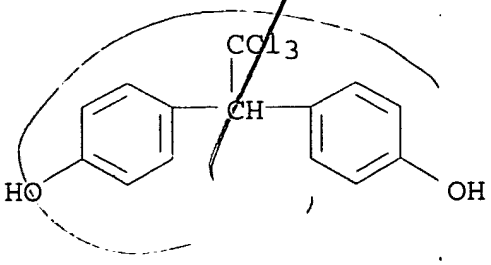
112367-96-1 112367-97-2 112367-98-3 112367-99-4 112385-12-3
(photochem. acid-generating compd., for **photoresists**)
IT **50-29-3**, properties 68-36-0 **72-43-5** 72-54-8
72-55-9, uses and miscellaneous 72-56-0 78-43-3 115-96-8
319-85-7 354-38-1 552-89-6 594-65-0 621-08-9 728-90-5
1929-82-4 3064-70-8 3194-55-6 4101-68-2 6339-09-9
(photochem. acid-generating compd., for **photoresists**)
IT 9003-08-1, Cymel 303 9016-83-5
(**photoresist** compn. contg., thermally stable)

L40 ANSWER 15 OF 18 HCA COPYRIGHT 2003 ACS on STN
101:101227 Photopolymerizable copying materials. Doenges, Reinhard; Horn, Klaus (Hoechst A.-G. , Fed. Rep. Ger.). Eur. Pat. Appl. EP 97864 A1 19840111, 46 pp. DESIGNATED STATES: R: DE, FR, GB. (German). CODEN: EPXXDW. APPLICATION: EP 1983-105776 19830613. PRIORITY: DE 1982-3223105 19820621; DE 1982-3227913 19820727.
GI

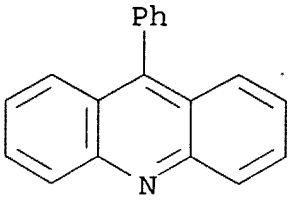


I

AB Photopolymerizable compns. which are insensitive to O are composed of a polymer **binder**, a radiation-activatable polymn. initiator, and a polymerizable compd. of the formula (CH2=CR1CO2CH2CHRO2CZ1)2Z1 and (CH2:CR1CO2CH2CO)2 (R = H or CH2:CR1CO2CH2; R1 = H or Me; Z = phenylene, biphenylene, alkylene, cycloalkylene, oxyalkyleneoxy, and the like; Z1 = O or (CH2)2CO). These compns. are esp. useful for the prodn. of **photoresists** and printing plates. Thus, an electrochem. grained and anodized Al plate was coated at 3.7-4 g/m2 (dry) with a a compn. contg. maleic anhydride-styrene copolymer 2, I 2, 9-phenylacridine 0.125, an azo dye 0.06, butanone 26, and BuOAc 14 parts, dried, exposed in a vacuum frame, and developed with an alk. developer to show 5 fully **crosslinked** steps.
IT **2971-36-0**
(chlorocarbonylation of, by phosgene)
RN 2971-36-0 HCA
CN Phenol, 4,4'-(2,2,2-trichloroethylidene)bis- (9CI) (CA INDEX NAME)

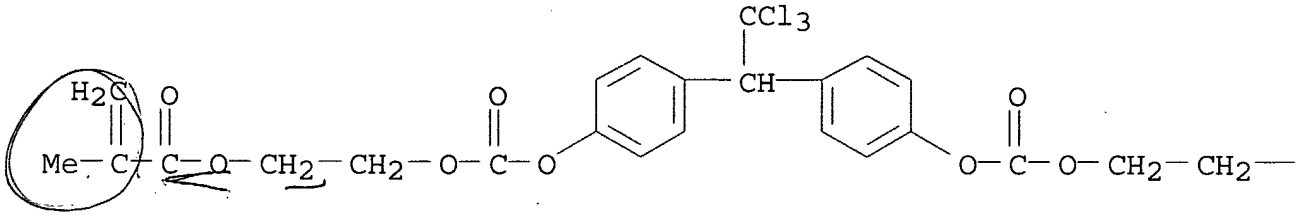


IT **602-56-2**
(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)
RN 602-56-2 HCA
CN Acridine, 9-phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

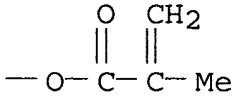


IT **91174-41-3**
(photopolymerizable compns. contg., oxygen-insensitive, for **photoresist** and printing plates)
RN 91174-41-3 HCA
CN 2-Propenoic acid, 2-methyl-, (2,2,2-trichloroethylidene)bis(4,1-phenyleneoxycarbonyloxy-2,1-ethanediyl) ester (9CI) (CA INDEX NAME)

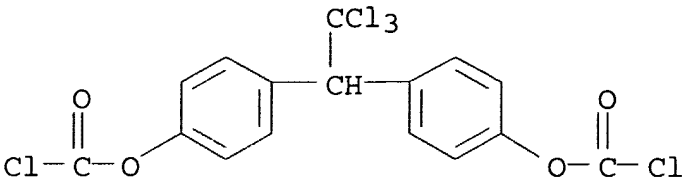
PAGE 1-A



PAGE 1-B



IT **17854-01-2P**
(prepn. of)
RN 17854-01-2 HCA
CN Carbonochloridic acid, (2,2,2-trichloroethylidene)di-4,1-phenylene ester (9CI) (CA INDEX NAME)



IC G03C001-68; C08F020-26; C08F020-28; C08F020-30
CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST acrylate methacrylate photopolymer oxygen insensitive; photoimaging acrylate methacrylate; **photoresist** acrylate methacrylate; printing plate acrylate methacrylate photopolymer; lithog plate acrylate methacrylate
IT Silica gel, uses and miscellaneous
(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)
IT **Resists**
(photo-, oxygen-sensitive, contg. photopolymerizable acrylates or methacrylates)
IT **2971-36-0** 71077-33-3
(chlorocarbonylation of, by phosgene)
IT **602-56-2** 23807-28-5 25086-15-1 41137-60-4 58206-31-8 58601-54-0
(photopolymerizable compns. contg. acrylates or methacrylates and, oxygen-insensitive, for **photoresists** and printing plates)
IT 30764-80-8 52645-24-6 91174-38-8 91174-39-9 91174-40-2
91174-41-3 91174-42-4 91174-43-5 91174-44-6
91174-45-7 91174-46-8 91174-47-9 91174-48-0 91174-49-1
91174-50-4 91174-51-5 91174-52-6 91174-53-7 91174-54-8
91174-55-9 91174-56-0 91174-57-1 91174-58-2 91174-59-3
91174-60-6 91174-61-7 91174-62-8 91174-63-9 91174-64-0
91174-65-1 91185-68-1 91185-69-2 91185-70-5 91185-71-6
91185-72-7 91185-73-8 91513-10-9 91513-11-0
(photopolymerizable compns. contg., oxygen-insensitive, for **photoresist** and printing plates)
IT **17854-01-2P** 91174-66-2P
(prepn. of)

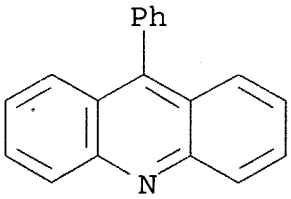
L40 ANSWER 16 OF 18 HCA COPYRIGHT 2003 ACS on STN
101:15056 Photopolymerizable compositions for copying materials.. Doenges, Reinhard; Horn, Klaus (Hoechst A.-G., Fed. Rep. Ger.). Ger. Offen. DE 3223104 A1 19831222, 34 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1982-3223104 19820621.
AB Photopolymerizable compns. for use as **photoresists** and in fabricating of printing plates are described. These compns., which are insensitive to O2, contain a polymer **binder**, a radiation-activatable polymn. initiator, and a polymerizable compd.

of the formula [CH2:CRCO2CH2(CH2O)m]2Z (R = H, Me; Z = phenylene, naphthylene, biphenyldiyl, dinaphthylmethandiyl, or a phenylene group with an O, S, SO2, carboxyl, carbonyloxyalkyl or the like group bridging the Ph groups; m = 0, 1). Thus, a compn. contg. a maleic anhydride-styrene copolymer (Scripset 540) 2, 9-phenylacridine 0.125, the azo dye from 2,4-dinitro-6-chlorobenzenediazonium salt and 2-methoxy-5-acetylamino-N-cyanoethyl-N-hydroxyethylaniline 0.06, (CH2:CMeCO2CH2CH2O-p-C6H4)2CHCO2Bu 2, butanone 26, and BuOAc 14 parts was coated on an Al printing plate support at 3.7-4 g/m2 (dry), exposed, and developed to show 5 completely **crosslinked** steps.

IT **602-56-2**
(photopolymerizable compns. contg. alkoxylated phenol acrylates and, oxygen-insensitive, for **photoresists** and printing plate fabrication)

RN 602-56-2 HCA

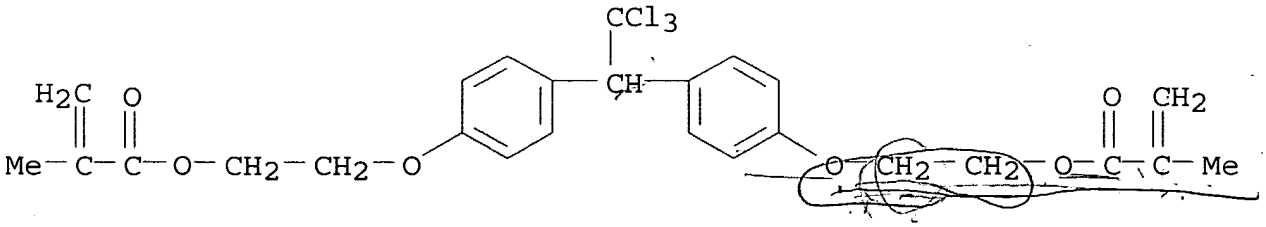
CN Acridine, 9-phenyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IT **90549-15-8**
(photopolymerizable compns. contg., oxygen-insensitive, for **photoresists** and printing plate fabrication)

RN 90549-15-8 HCA

CN 2-Propenoic acid, 2-methyl-, (2,2,2-trichloroethylidene)bis(4,1-phenyleneoxy-2,1-ethanediyl) ester (9CI) (CA INDEX NAME)



IC C08F002-46; C08F002-48; C08F002-50; C08F002-54; C08F020-30; C08F020-38; G03F007-10; G03C001-68

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Resists**
(photo-, contg. alkoxylated phenol acrylates)

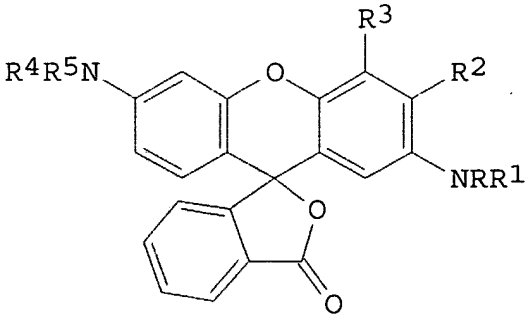
IT 100-42-5D, polymers with maleic acid esters 110-16-7D, esters, polymers with styrene **602-56-2** 25086-15-1 41137-60-4 58206-31-8 58601-54-0 79295-99-1
(photopolymerizable compns. contg. alkoxylated phenol acrylates and, oxygen-insensitive, for **photoresists** and printing

plate fabrication)

IT 7371-49-5 18838-58-9 24448-21-3 27499-52-1 35057-36-4
51309-48-9 90548-99-5 90549-00-1 90549-01-2 90549-02-3
90549-03-4 90549-04-5 90549-05-6 90549-06-7 90549-07-8
90549-08-9 90549-09-0 90549-10-3 90549-11-4 90549-12-5
90549-13-6 90549-14-7 **90549-15-8** 90549-16-9
90549-17-0 90549-18-1 90549-19-2 90549-20-5 90549-21-6
90549-22-7 90549-23-8 90549-24-9 90577-68-7 90577-69-8
90603-93-3
(photopolymerizable compns. contg., oxygen-insensitive, for **photoresists** and printing plate fabrication)

L40 ANSWER 17 OF 18 HCA COPYRIGHT 2003 ACS on STN
93:141030 Phototropic photosensitive compositions containing fluoran colorformer. Reardon, Edward Joseph, Jr. (Dynachem Corp., USA). Eur. Pat. Appl. EP 5380 19791114, 78 pp. (English). CODEN: EPXXDW. APPLICATION: EP 1979-300796 19790509.

GI

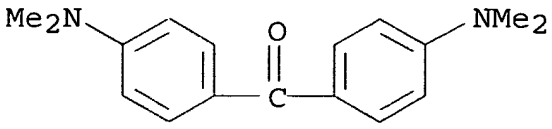


I

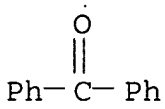
AB Phototropic compns. contg. a polymerizable, curable, or **crosslinkable** component, a photoinitiator, a fluoran color-former with the formula I (R,R1 = H, alkyl, alkenyl, alkoxyalkyl, alkoxycarboxylalkyl acyl, aryl, or together form a heterocycle; R2 = H, alkyl, alkoxy, halogen, amino, aryl, aryloxy; R3 = H, alkyl, alkoxy, amino, or the same as R,R1 above; R4, R5 are the same as R,R1 above), and latent activator that releases or promotes the release of a Lewis acid are described. These compns. are esp. useful in the prodn. of dry film **photoresists** for use in the electronics industry to manuf. printed circuits. Thus, a typical compn. contained Acryloid A-101 60.3, trimethylolpropane triacrylate 19.6, tetraethylene glycol diacrylate 9.8, **benzophenone** 3.4, 2,2'-methylene bis(4-ethyl-6-tert-butyl)phenol 0.18, Modaflow 0.15, tricresyl phosphate 4.31, 4,4'-bis(dimethylamino)**benzophenone** 0.45, CBr3CONH2 1.51, I (R = Me; R1 = CH2CO2Et; R2, R3 = H; R4,R5 = Et) 0.3, and MeCOEt 195 parts by wt.

IT **90-94-8 119-61-9**, properties **530-44-9**
(photoimaging compns. contg. fluoran color-former and,

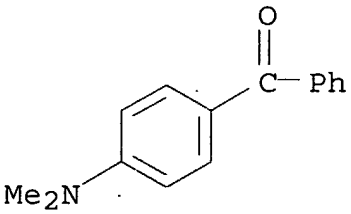
phototropic)
RN 90-94-8 HCA
CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



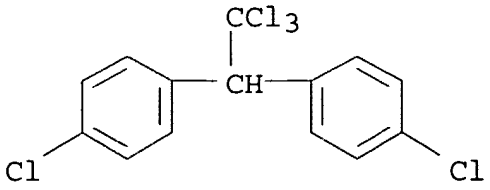
RN 119-61-9 HCA
CN Methanone, diphenyl- (9CI) (CA INDEX NAME)



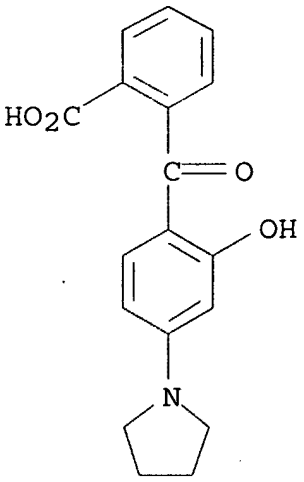
RN 530-44-9 HCA
CN Methanone, [4-(dimethylamino)phenyl]phenyl- (9CI) (CA INDEX NAME)



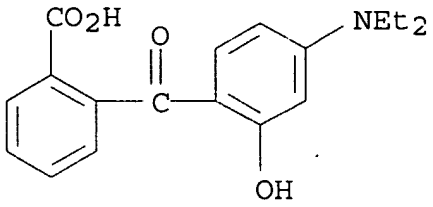
IT **50-29-3**, properties
(photoimaging compns. contg. fluoran color-former and, phototropic)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IT **49742-68-9**
(reaction of, with benzoanisidine)
RN 49742-68-9 HCA
CN Benzoic acid, 2-[2-hydroxy-4-(1-pyrrolidinyl)benzoyl]- (9CI) (CA INDEX NAME)



IT **5809-23-4**
(reaction of, with nitrophenol)
RN 5809-23-4 HCA
CN Benzoic acid, 2-[4-(diethylamino)-2-hydroxybenzoyl]- (9CI) (CA INDEX NAME)



IC G03C001-68; G03C001-733; G03F007-02
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)
IT **Resists**
(photo-, dry-film, contg. fluoran color formers)
IT Electric circuits
(printed, dry-film **photoresist** contg. fluoran color-former in fabrication of)
IT 86-39-5 87-58-1 87-82-1 88-24-4 **90-94-8** 95-14-7
96-13-9 98-86-2, properties 103-11-7 107-10-8, properties
108-01-0 108-32-7 115-20-8 119-53-9 **119-61-9**,
properties 121-44-8, properties 126-72-7 128-09-6 134-81-6
144-48-9 306-52-5 486-25-9 492-22-8 515-84-4
530-44-9 558-13-4 594-47-8 594-65-0 598-70-9
918-00-3 927-62-8 1124-05-6 1330-78-5 1529-68-6 1675-54-3
2124-31-4 2223-82-7 2386-87-0 2436-77-3 2461-18-9
2935-44-6 3524-68-3 5398-24-3 6175-45-7 6320-96-3
7575-23-7 9011-14-7 9011-14-7 10287-53-3 12542-30-2
13048-33-4 13686-37-8 14779-78-3 15081-02-4 15625-89-5

17831-71-9 22499-12-3 23162-64-3 26672-67-3 29170-71-6
36355-01-8 36511-35-0 37167-59-2 38800-47-4 40715-86-4
52016-01-0 53814-24-7 54735-63-6 56927-95-8 66208-29-5
66208-30-8 73003-80-2 73852-13-8 73852-14-9 73852-15-0
73882-79-8
(photoimaging compns. contg. fluoran color-former and, phototropic)

IT **50-29-3**, properties 56-23-5, properties 57-15-8
67-72-1 75-03-6 75-47-8 76-00-6 76-08-4 77-47-4 79-94-7
(photoimaging compns. contg. fluoran color-former and, phototropic)

IT **49742-68-9**
(reaction of, with benzoanisidine)

IT 100-02-7, reactions 2835-99-6 61638-01-5
(reaction of, with **carboxydiethylaminohydroxybenzophenone**)

IT 1008-97-5 17377-95-6
(reaction of, with **carboxyhydroxypyrrolidinylbenzophenone**)

IT **5809-23-4**
(reaction of, with nitrophenol)

L40 ANSWER 18 OF 18 HCA COPYRIGHT 2003 ACS on STN
88:161479 Stable photopolymerizable mass. Yamazaki, Toshio; Cook, Harriet J.; Lipson, Melvin A. (Dynachem Corp., USA). Ger. Offen. DE 2718200 19771027, 55 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1977-2718200 19770423.

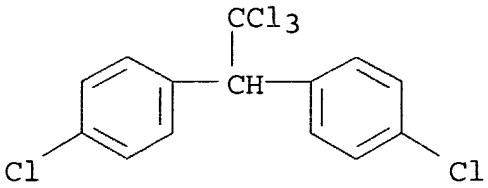
AB Stable photopolymerizable compns. contain an addn. polymerizable ethylenically unsatd. compd. with .gtoreq.1 terminal ethylenic group and having a boiling p. .gtoreq.100.degree. at atm. pressure, a free-radical-forming addn. polymn. initiator, a free base of a dye whose halide salt is more colored than the free base, and a halogen-contg. compd. giving halogen-contg. radicals on exposure to light. Thus, a photopolymerizable compn. giving a stable image contained Acryloid A-101 40.0, trimethylolpropane triacrylate 13.0, triethylene glycol diacrylate 6.5, bezophenone 2.25, 4,4'-bis(dimethylamino)**benzophenone** 0.3, 2,2'-methylenebis(4-ethyl-6-tert-butylphenol) 0.12, Rhodamine B base 0.6, trichloroacetamide 1.8, 2-mercaptobenzoxazole 0.33, Modaflow 0.10, tricresyl phosphate 2.88, and MeCOEt 130 parts by wt.

IT **50-29-3**, uses and miscellaneous **90-94-8**
119-61-9, uses and miscellaneous
(photopolymerizable compns. contg., for photoimaging and **photoresists**)

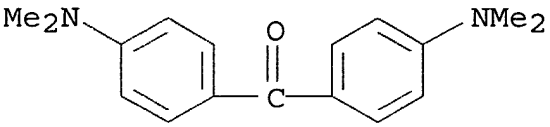
RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)

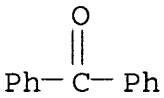
= 406315



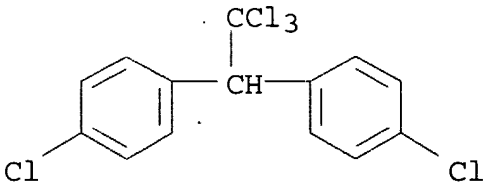
RN 90-94-8 HCA
CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



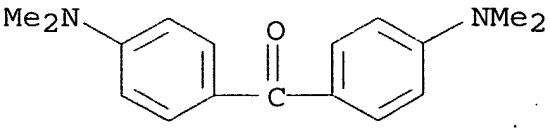
RN 119-61-9 HCA
CN Methanone, diphenyl- (9CI) (CA INDEX NAME)



IT **50-29-3**, uses and miscellaneous **90-94-8**
134-85-0
(photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)

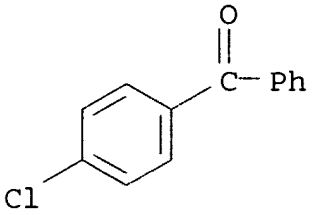


RN 90-94-8 HCA
CN Methanone, bis[4-(dimethylamino)phenyl]- (9CI) (CA INDEX NAME)



RN 134-85-0 HCA

CN Methanone, (4-chlorophenyl)phenyl- (9CI) (CA INDEX NAME)



IC C08L033-00
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic Processes)
Section cross-reference(s): 76
ST photoimaging compn free radical; **photoresist** printed circuit fabrication
IT Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous
(chlorinated, photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)
IT Acrylic polymers, uses and miscellaneous
Soybean oil
(photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)
IT **Resists**
(photo-, free radical-initiated photopolymerizable compns. for)
IT **50-29-3**, uses and miscellaneous 57-15-8 88-24-4
90-94-8 96-13-9 99-98-9 101-61-1 115-20-8 118-74-1
119-61-9, uses and miscellaneous 134-32-7 509-34-2
548-62-9 569-64-2 594-65-0 1332-85-0 2382-96-9 2390-63-8
8004-87-3 9011-14-7 15625-89-5 17831-71-9 66231-28-5
66231-29-6 66231-30-9 66231-31-0 66231-32-1 66231-33-2
(photopolymerizable compns. contg., for photoimaging and **photoresists**)
IT **50-29-3**, uses and miscellaneous 56-23-5, uses and miscellaneous 67-72-1 75-03-6 75-47-8 76-03-9, uses and miscellaneous 80-62-6 87-82-1 **90-94-8** 95-14-7
96-13-9 115-96-8 126-72-7 128-09-6 **134-85-0**
135-49-9 467-63-0 509-34-2 558-13-4 594-65-0 634-93-5
818-61-1 1124-05-6 1325-85-5 1325-86-6 2223-82-7 2390-59-2
2412-14-8 3248-93-9 3524-68-3 4986-89-4 5330-18-7
5385-11-5 6066-04-2 6359-16-6 6359-45-1 6837-66-7
6837-75-8 9002-86-2 9003-01-4D, esters, reaction products with epoxidized soybean oil 9010-92-8 9011-14-7 9059-79-4
12542-30-2 13686-37-8 25215-62-7 29385-43-1 36355-01-8
36511-35-0 40715-86-4 51326-37-5 52016-01-0 52080-58-7
54735-63-6 66208-29-5 66208-30-8 66225-66-9 66231-35-4
(photopolymerizable compns. contg., for photoimaging compns. and **photoresists**)

=> d l41 cbib abs hitstr hitind

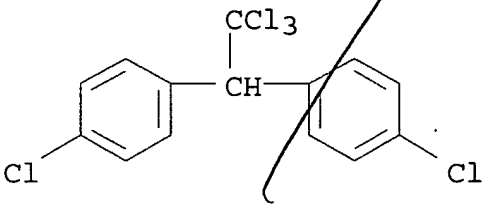
L41 ANSWER 2 OF 35 HCA COPYRIGHT 2003 ACS on STN
135:378749 Nitride surface passivation for acid catalyzed chemically amplified **resist** processing. Lyons, Christopher F. (Advanced Micro Devices, USA). U.S. US 6319843 B1 20011120, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 1999-328084 19990608.

AB In one embodiment, the present invention relates to a method of minimizing or preventing contamination of an acid catalyzed **photoresist** when using the acid catalyzed **photoresist** over a nitride contg. film, involving contacting the nitride contg. film with an oxidizing plasma comprising from about 1 to about 90 by vol. of an oxygen contg. gas and from about 10 to about 99 by vol. of a forming gas prior to deposition of the acid catalyzed **photoresist** over the nitride contg. film. Since the surface of the nitride contg. film is passivated in accordance with the present invention, crisp, well defined patterned **photoresists** are obtainable.

IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, processes
(photoacid generator; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM H01L021-302

NCL 438724000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST nitride film surface passivation chem amplified **photoresist** contamination prevention; photolithog UV **photoresist** contamination prevention nitride surface passivation

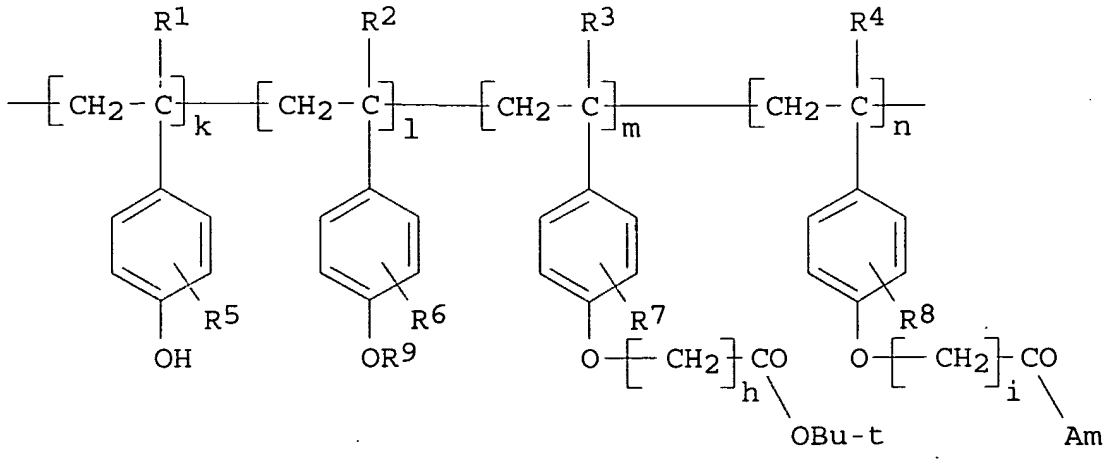
IT **Photoresists**
(UV, chem. amplified; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

IT Photolithography
(UV; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

IT Passivation
(nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

IT 24979-70-2D, Poly-p-hydroxystyrene, partially t-butoxycarbonyloxy substituted
(UV acid-catalyzed **photoresist**; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
IT 11105-01-4, Silicon oxynitride 12033-89-5, SILICON NITRIDE, processes
(nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
IT 1333-74-0, Hydrogen, processes 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen, processes
(oxidizing plasma component; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, processes
(photoacid generator; nitride film surface passivation for acid catalyzed chem. amplified **resist** processing using oxidizing plasma)

L41 ANSWER 3 OF 35 HCA COPYRIGHT 2003 ACS on STN
134:318680 Modified p-hydroxystyrene copolymers and chemically amplified **photoresist** compositions containing them. Jong, Hyun Byon; Kim, Seong-ju; Park, Joo-hyeon; Lee, Jong Bum (Korea Kumho Petrochemical Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 2001114822 A2 20010424, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-287468 19991008.
GI



I

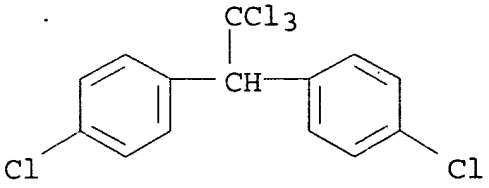
AB Chem. amplified **photoresist** compns. contain copolymers I

[R1-R4 = H, lower alkyl; R5-R8 = H, C1-8 alkyl, alkoxy, alkoxycarbonyl, halo; h, i = 0-8; 0.3 < k/(k + l + m + n) < 0.9; 0 .ltoreq. l/(k + l + m + n) < 0.6; 0 .ltoreq. m/(k + l + m + n) < 0.6; 0.01 < n/(k + l + m + n) < 0.3; k + l + m + n = 1; l = m .noteq. 0; R9 = CR10R11OR12; R10, R11 = H, C1-6 linear or branched alkyl; R12 = C1-10 linear, branched, or cyclic alkyl; Am = NR13R14, (O- or S- contg.) cyclic amine; R13, R14 = H, C1-8 alkyl, aryl, Ph] having Mw (calcd. as polystyrene) 1000-1,000,000, acid generators, and additives dissolved in solvents. The compns. are sensitive to UV, far-UV, excimer laser, x-rays, and electron beams and give high-sensitivity high-resoln. fine patterns.

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses
(acid generator; prepn. of hydroxystyrene copolymers for chem. amplified **photoresists**)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F008-14
ICS C08L025-18; G03F007-004; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 37

ST hydroxystyrene polymer chem amplified **photoresist**

IT **Photoresists**
(chem. amplified; prepn. of hydroxystyrene copolymers for chem. amplified **photoresists**)

IT Integrated circuits
(large-scale; prepn. of hydroxystyrene copolymers for chem. amplified **photoresists** for)

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses 6293-66-9 24481-45-6 24504-22-1 39153-56-5, Bis(2,4-dimethylphenylsulfonyl)diazomethane 57840-38-7, Triphenylsulfonium hexafluoroantimonate 116808-67-4 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 180801-55-2 255056-53-2 331834-74-3
(acid generator; prepn. of hydroxystyrene copolymers for chem. amplified **photoresists**)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with poly(p-hydroxystyrene) 5292-43-3DP, tert-Butyl bromoacetate, reaction products with poly(p-hydroxystyrene) 24979-70-2DP, p-Hydroxystyrene homopolymer, reaction products with (bromoacetyl)morpholine and tert-Bu bromoacetate and/or Et vinyl ether 40299-87-4DP, 4-(Bromoacetyl)morpholine, reaction products

with poly(p-hydroxystyrene)
(prepn. of hydroxystyrene copolymers for chem. amplified **photoresists**)

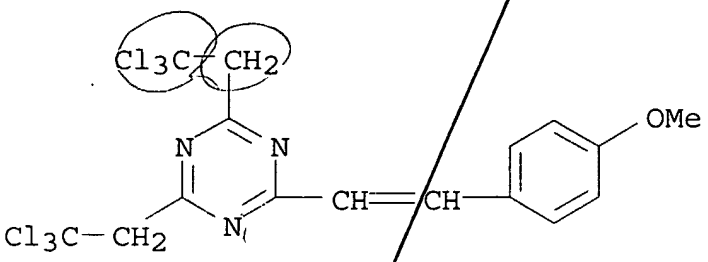
L41 ANSWER 4 OF 35 HCA COPYRIGHT 2003 ACS on STN
133:342516 Photopolymerization composition and printing plate containing it. Takasaki, Ryuichiro; Urano, Toshiyoshi (Mitsubishi Chemical Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000305262 A2 20001102, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-360592 19991220. PRIORITY: JP 1999-41667 19990219.

AB The compn. consists of an ethylenically unsatd. amine with an acryloyloxyalkyl and/or a phosphate with (meth)acryloyloxyalkyl, a phthalocyanine IR absorbing dye, and a polymn. initiator. The printing plate comprises an anodized Al support having thereon a layer contg. the obtained compn. The plate provides images with high resolving power, suitable for IR laser scanning exposure.

IT **303957-45-1**
(polymn. initiator; ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

RN 303957-45-1 HCA

CN 1,3,5-Triazine, 2-[2-(4-methoxyphenyl)ethenyl]-4,6-bis(2,2,2-trichloroethyl)- (9CI) (CA INDEX NAME)



IC ICM G03F007-004
ICS C08F020-36; G03F007-00; G03F007-027; G03F007-029

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photopolymn compn acryloyloxyalkyl amine phosphate printing plate; phthalocyanine IR absorber **photoresist** presensitized lithog plate

IT **Photoresists**
(ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

IT 120307-06-4 **303957-45-1**
(polymn. initiator; ethylenically unsatd. amine or phosphate in photopolymn. compn. for IR laser scanning-type printing plate)

L41 ANSWER 5 OF 35 HCA COPYRIGHT 2003 ACS on STN
132:271670 Radiation-sensitive **resist** composition and polymer for it. So, Don-Chul; Paek, soon-I.; Park, Cho-Hyun; Kim, Son-Ju (Korea Kumho Petrochemical Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 2000109525 A2 20000418, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-202429 19990716. PRIORITY: KR 1998-41972

19981008.

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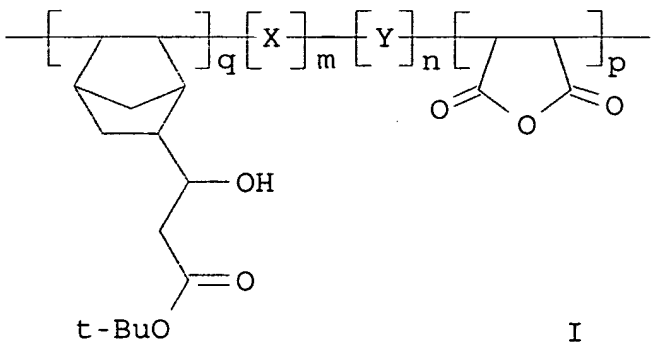

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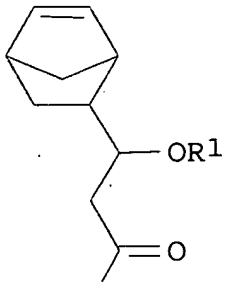
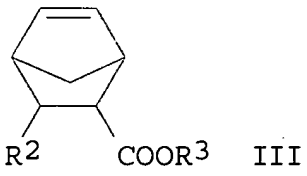
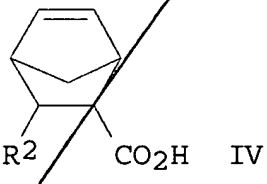


II



III



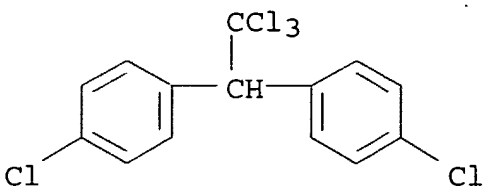
IV

AB A copolymer I [X = norbornene deriv. II or III with acid releasable group at side chain; Y = norbornene deriv. IV with carboxylic acid group at side chain; R1 = C1-10 alkyl, (poly)cyclic alkyl, alkylcarbonyl, such as tert-butyloxycarbonyl, acetyl, cyclohexanecarbonyl, adamantanecarbonyl, bicyclo[2,2,1]heptanemethylcarbonyl, etc.; R2 = H, C1-10 (cyclic) alkyloxycarbonyl, alkoxyalkylcarbonyl; R3 = C1-10 alkyl, (poly)cyclic alkyl, such as Me, Et, tert-Bu, iso-Pr, adamantyl, etc.; q + m + n + p = 1; o = 0.4-0.6; q, m, n .ltoreq.0.5] having mol. wt. (as styrene) 3000-50,000 and polydispersity (Mw/Mn) 1.0-2.0 is claimed. The radiation-sensitive **resist** compn. comprising the polymer I, an acid generator, and a solvent is also claimed. The compn. shows high sensitivity to ArF excimer laser, good adhesion with a substrate, dry etching resistance, and high resoln.

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses (radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)

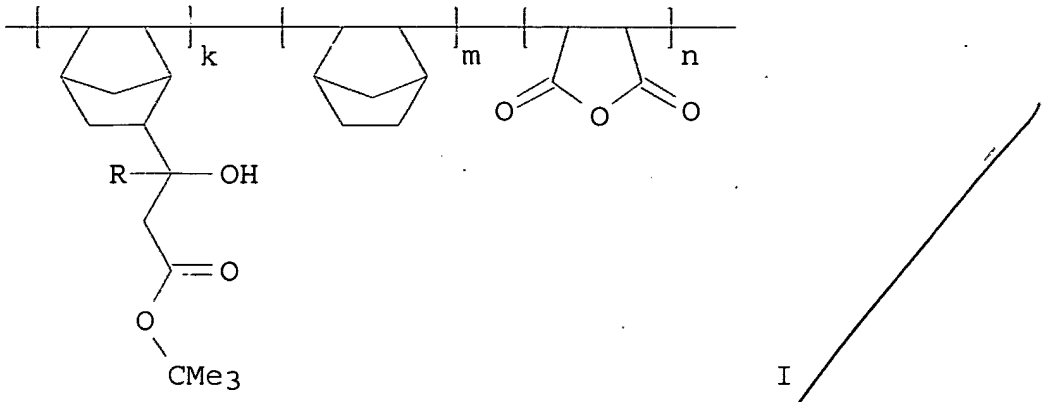
RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F222-06
ICS C08F232-08; C08G063-54; C08L035-02; G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST radiation **resist** norbornene copolymer polydispersity; acid generator radiation **resist**
IT **Resists**
(radiation-sensitive; radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)
IT 263334-33-4P 263334-34-5P 263334-35-6P 263334-37-8P 263334-39-0P 263334-41-4P 263334-42-5P 263334-43-6P 263334-45-8P 263334-46-9P 263334-47-0P
(radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)
IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses 6293-66-9 24504-22-1 57840-38-7, Triphenylsulfonium hexafluoroantimonate 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate
(radiation-sensitive **resist** compn. contg. norbornene deriv. copolymer and acid generator)

L41 ANSWER 7 OF 35 HCA COPYRIGHT 2003 ACS on STN
130:73899 Bicyclo structure-containing copolymer for positively-working **photoresist** and chemically amplified positively-working **photoresist** composition containing the polymer. Park, Jo-Heon; Kim, Gi-Hong; Kim, Ki-Dae; Park, Soon-Yi; Kim, Seon-Ju (Kumho Petrochemicals Co., Ltd., S. Korea). Jpn. Kokai Tokkyo Koho JP 10316720 A2 19981202 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-96482 19980408. PRIORITY: KR 1997-13338 19970408.
GI



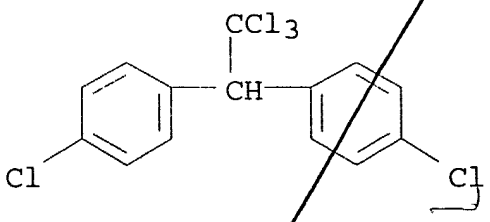
I

AB The copolymer with polystyrene-converted mol. wt. 1000-1,000,000 is represented as a structural repeating unit I [R = H, alkyl; k/(m + n) = 0.1-0.5; m/(k + n) = 0-0.5; n/(k + m) = 1-0.9]. The chem. amplified pos.-working **photoresist** compn. contains the polymer and an agent releasing acid under radiation irradn. The **photoresist** compn. gives subquatermicron patterns with improved etching resistance.

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses
(chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM C08F232-04
ICS G03F007-039

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35

ST pos working **photoresist** subquatermicron pattern; chem amplified pos working **photoresist** copolymer; bicyclo structure contg polymer **photoresist**; acid releasing agent pos working **photoresist**; etching resistant pattern pos working **photoresist**

IT Positive **photoresists**
(chem. amplified; chem. amplified pos. working

photoresist compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

IT 217798-35-1P, tert-Butyl 3-bicyclo[2.2.1]hept-5-en-2-yl-3-hydroxypropionate-maleic anhydride-norbornene copolymer
(chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, uses 6293-66-9 24481-46-7 24504-22-1 39153-56-5, Bis(2,4-dimethylphenylsulfonyl)diazomethane 57840-38-7, Triphenylsulfonium hexafluoroantimonate 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate 81416-37-7 116808-67-4 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 145612-66-4 195245-87-5
(chem. amplified pos. working **photoresist** compn. contg. bicyclo structure-contg. polymer and acid-releasing agent for etching-resistant fine pattern)

L41 ANSWER 8 OF 35 HCA COPYRIGHT 2003 ACS on STN

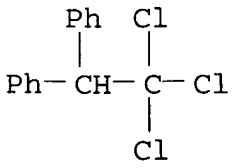
129:102852 Multilayer printed circuit boards and manufacturing thereof. Ono, Yoshitaka; Noda, Kota; Segawa, Hiroshi; Asai, Motoo (Ibiden Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10154873 A2 19980609 Heisei, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-18968 19970131. PRIORITY: JP 1996-257056 19960927.

AB The title process comprises formation of a photosensitive resin insulating layer on an interlayer insulating resin layer (e.g. an adhesion layer for electroless plating), exposure and curing of the photosensitive resin layer to a desired pattern of a plating **resist** layer, electroless plating of a conductor circuit pattern on portions where no plating **resist** layer is formed, formation of gaps between opposing walls of the conductor pattern and the plating **resist** layer, and formation of a coarse layer for an anchor effect on the surface of the conductor pattern. No formation of cracks occurs toward the interlayer insulating layer at the boundaries between the circuit and the plating **resist**.

IT **2971-22-4**, DPE
(for prepn. of plating **resist** permanent insulating layers in multilayer printed circuit boards)

RN 2971-22-4 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis- (9CI) (CA INDEX NAME)



IC ICM H05K003-46
ICS H05K003-46

CC 76-2 (Electric Phenomena)
Section cross-reference(s): 38
ST multilayer printed circuit board electroless plating; plating **resist** permanent insulating layer; interlayer resin insulating layer
IT Polysulfones, properties
(cresol-novolak, acrylate-modified; for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
IT Coating process
(electroless; formation of circuit patterns with permanent plating **resist** insulating layers in multilayer printed circuit boards)
IT Polyethers, properties
(for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
IT Printed circuit boards
(multilayer; formation of circuit patterns with permanent plating **resist** insulating layers in multilayer printed circuit boards)
IT Epoxy resins, properties
(phenolic, novolak, acrylate-modified; for prepn. of interlayer and permanent plating **resist** insulating layers in multilayer printed circuit boards)
IT 12797-07-8 116226-27-8
(film; for electroless-plated circuit patterns with permanent plating **resist** layers in multilayer printed circuit boards)
IT 7440-50-8, Copper, processes
(for electroless-plated circuit patterns with permanent plating **resist** layers in multilayer printed circuit boards)
IT 106556-00-7, Aronix M 325
(for prepn. of plating **resist** permanent insulating layers in multilayer printed circuit boards)
IT 140-88-5D, polymers with Bu acrylate, 2-ethylhexyl acrylate, and hydroxy acrylate 141-32-2D, polymers with Et acrylate, 2-ethylhexyl acrylate, and hydroxy acrylate 818-61-1D, polymers with Bu acrylate, Et acrylate, and hydroxy acrylate **2971-22-4**, DPE 25068-38-6, Epikote 1001 87320-05-6
(for prepn. of plating **resist** permanent insulating layers in multilayer printed circuit boards)

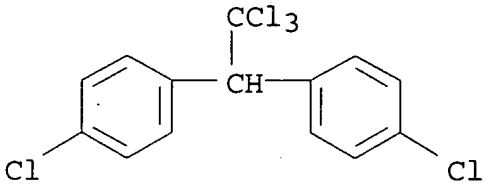
L41 ANSWER 9 OF 35 HCA COPYRIGHT 2003 ACS on STN
124:131551 Fine pattern forming method. Hashimoto, Kazuhiko; Endo, Masayuki (Matsushita Electric Industrial Co., Ltd., Japan). U.S. US 5476753 A 19951219, 11 pp. Cont.-in-part of U.S. Ser. No. 916, 748, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1994-238793 19940506. PRIORITY: JP 1991-180836 19910722; US 1992-916748 19920722.
AB A high polymer/org. film is applied as a bottom layer to a semiconductor/silicon substrate. A material including an acid generator which generates an acid on irradn. with an electron beam

and a polysilane resin insol. in an alk. soln. is applied to the bottom layer as an electron beam **resist** including a Si-Si bond or Si-O bond in a principle chain and a substituted hydroxy group expressed as -OR in a side chain (R = hydrocarbon substitution group). A pattern is formed with an electron beam in the photosensitive layer, and it is developed with an alk. soln. By using the **resist** pattern as a mask, the bottom layer is etched. Thus, a fine **resist** pattern of correct high aspect ratio can be formed easily.

IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, processes
(acid generator for electron beam **resist** compn.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C005-00

NCL 430296000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electron beam **resist** fine patterning

IT Silsesquioxanes
(electron beam **resist** compn. from)

IT **Resists**
(electron-beam, acid generator and polysilane resin using)

IT Polysilanes
(ladder, electron beam **resist** compn. from)

IT Ladder polymers
(polysilanes, electron beam **resist** compn. from)

IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, processes
(acid generator for electron beam **resist** compn.)

IT 151172-77-9
(electron beam **resist** compn. from)

IT 18393-55-0, Triphenylsulfonium ion
(salt; acid generator for electron beam **resist** compn.)

L41 ANSWER 10 OF 35 HCA COPYRIGHT 2003 ACS on STN

123:44385 Fine pattern formation **resist** and its formation. Katsuyama, Akiko; Hashimoto, Kazuhiko (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06342212 A2 19941213 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-65880 19940404. PRIORITY: JP 1993-80503 19930407.

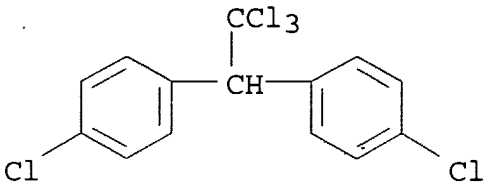
AB The **resist** contains (A) a polymer contg. a cellulose

backbone in a main chain which decomps. by an acid and (B) an acid generator. The method involves (1) forming a **resist** film by applying the **resist**, (2) pattern-exposuring by radiation to generate the acid and decompg. the backbone, and (3) developing the film to form a pos. **resist** pattern.

IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses
(acid generator; **photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-039
ICS G03F007-004; G03F007-033; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST cellulose photo **resist** acid generator; pattern formation **resist** cellulose decompn; radiation **resist** photo cellulose decompn

IT Laser radiation
(**photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

IT **Resists**
(photo-, **photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses
(acid generator; **photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

IT 126615-05-2 164324-46-3 164324-47-4
(**photoresists** contg. cellulose derivs. and acid generators for pattern formation by radiation)

L41 ANSWER 12 OF 35 HCA COPYRIGHT 2003 ACS on STN

121:145374 Acid-catalyzed electron-beam **resist** and its patterning. Katsuyama, Akiko; Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05303203 A2 19931116 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-109666 19920428.

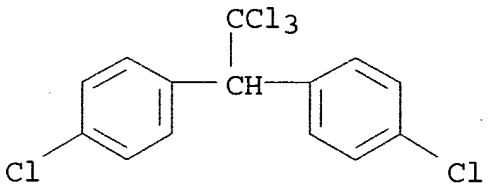
AB The title **resist** comprises an alkali aq. soln.-insol. polymer comprising poly(p-hydroxystyrene) or its deriv. in which the H in the OH group is displaced by a group contg. N-carboxyamine and an acid-generating agent which is capable of generating acid by

electron-beam irradn. The title patterning comprises the steps of coating on a substrate a soln. of the above **resist**, patternwise exposure of the coated **resist** with electron beam, heat treatment of the exposed **resist** to promote the decompn. reaction of the side chains of the above polymer by the generated acid and enable the dissoln. of the polymer in the exposed area by an alkali, and developing with an alkali aq. soln. to give a pos. pattern. The **resist** shows high sensitivity and the invention provides fine patterns with high throughput.

IT **50-29-3**, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses
(acid-generating agent, electron-beam **resist** contg.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-039
ICS G03F007-004; H01L021-027; H01L021-312

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electron beam **resist** acid catalysis; chem amplification electron beam **resist**

IT **Resists**
(electron-beam, acid-catalyzed, pos.-working, patterning of)

IT 157219-83-5 157219-85-7
(acid-catalyzed electron-beam **resist** contg.)

IT **50-29-3**, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses
(acid-generating agent, electron-beam **resist** contg.)

L41 ANSWER 13 OF 35 HCA COPYRIGHT 2003 ACS on STN

121:46627 Acid-catalyzed electron-beam **resist** and its patterning. Katsuyama, Akiko; Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Ind Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 05303204 A2 19931116 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-109668 19920428.

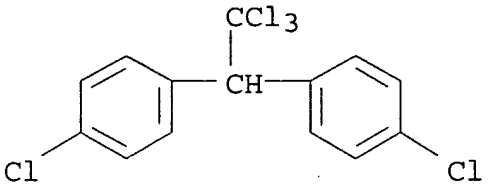
AB The title **resist** comprises an alkali-sol. polymer, an alkali aq. soln.-insol. silylbenzene-contg. compd., and an acid-generating agent which is capable of generating acid by electron-beam irradn. The title patterning comprises the steps of coating on a substrate with the above **resist** soln., patternwise exposure of the coated **resist** with electron beam, heat treatment of the exposed **resist** to promote the decompn. reaction of the silylbenzene deriv. by the generated acid

and enable the dissoln. of the silylbenzene deriv. in the exposed area by alkali soln., and developing with an alkali aq. soln. to give a pos. pattern. The **resist** shows high sensitivity and the invention provides fine patterns with high throughput.

IT **50-29-3**, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses
(acid-generating agent, electron-beam **resist** contg.)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-039
ICS C08K005-02; C08K005-42; C08K005-54; C08L061-06; G03F007-004; G03F007-075; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electron beam **resist** acid catalysis; chem amplification electron beam **resist**

IT **Resists**
(electron-beam, acid-catalyzed, pos.-working, patterning of)

IT Phenolic resins, uses
(novolak, acid-catalyzed electron-beam **resist** contg.)

IT **50-29-3**, 1, 1-Bis(p-chlorophenyl)-2, 2, 2-trichloroethane, uses
(acid-generating agent, electron-beam **resist** contg.)

IT 768-32-1, Trimethylsilylbenzene
(dissoln. inhibitor, acid-catalyzed electron-beam **resist** contg.)

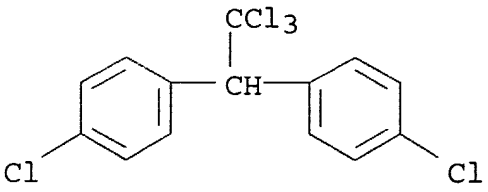
L41 ANSWER 14 OF 35 HCA COPYRIGHT 2003 ACS on STN

119:239812 Precision patterning materials and patterning thereof. Hashimoto, Kazuhiko; Endo, Masataka (Matsushita Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 05029205 A2 19930205 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-180836 19910722.

AB The title electron-beaming pos.-type **resist** material, useful for prepn. of semiconductor devices and elec. circuits, comprises (1) a polysilane which has Si-Si bonds on its main chain and substituted hydroxyl groups on its branches and which is insol. in an aq. base and (2) an acid donor agent. The material gives a high-precision, high-resoln., and dry-etching resistant **resist**.

IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses
(acid generator, electron-beaming **resist** contg.)

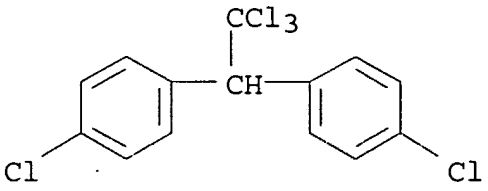
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



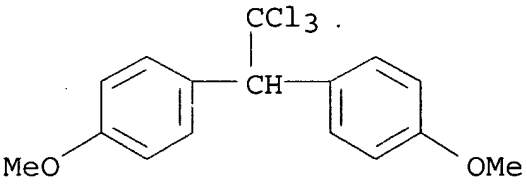
IC ICM H01L021-027
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38
ST patterning pos **resist** polysilane acid
IT Onium compounds
(electron-beaming **resist** contg.)
IT Siloxanes and Silicones, uses
(ladder-type, electron-beaming **resist** contg.)
IT Halogen acids
(org., agent generating of, electron-beaming **resist** contg.)
IT **Resists**
(electron-beam, pos.-working, polysilane-acid mixt. for, for precision patterning)
IT Siloxanes and Silicones, uses
(polysilane-, electron-beaming **resist** contg.)
IT Polysilanes
(siloxane-, electron-beaming **resist** contg.)
IT **50-29-3**, 1,1-Bis[p-chlorophenyl]-2,2,2-trichloroethane, uses 18393-55-0D, salts
(acid generator, electron-beaming **resist** contg.)
IT 151172-77-9
(electron-beaming **resist** contg.)

L41 ANSWER 15 OF 35 HCA COPYRIGHT 2003 ACS on STN
116:245278 Material and method for forming fine pattern. Hashimoto, Kazuhiko; Nomura, Noboru (Matsushita Electric Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03139650 A2 19910613 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-278840 19891025.
AB The title material comprises (1) an acid-decompg. resin or an acid-reactive monomer, (2) an O-forming agent which generates O upon irradn. with an electron beam, and (3) a Si resin having Si in its main or side chain. A method for forming a fine pattern involves coating the above material on a semiconductor substrate having an org. polymer film, patternwise exposure and developing with a basic soln. to form a **resist** pattern, and etching the polymer film using the **resist** pattern. Specifically, the Si resin may comprise a polysilane.
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses

72-43-5, 1,1-Bis(p-methoxyphenyl)-2,2,2-trichloroethane
(**photoresists** contg.)
RN 50-29-3 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



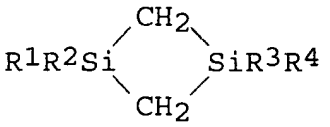
RN 72-43-5 HCA
CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy- (9CI) (CA INDEX NAME)



IC ICM G03F007-039
ICS G03F007-075; H01L021-027
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76
ST etching **photoresist** semiconductor device
IT Siloxanes and Silicones, uses
(hydroxyphenyl, **photoresists** contg.)
IT Semiconductor devices
(**photoresist** compns. for manuf. of)
IT Polysilanes
(**photoresists** contg.)
IT **Resists**
(photo-, electron-beam)
IT **50-29-3**, 1,1-Bis(p-chlorophenyl)-2,2,2-trichloroethane, uses
72-43-5, 1,1-Bis(p-methoxyphenyl)-2,2,2-trichloroethane
1075-49-6 9003-08-1 25087-26-7D, carbonic acid esters
(**photoresists** contg.)

L41 ANSWER 16 OF 35 HCA COPYRIGHT 2003 ACS on STN
116:48912 Process for forming a fine pattern. Hashimoto, Kazuhiko; Kawakita, Kenji; Nomura, Noboru (Matsushita Electric Industrial Co., Ltd., Japan). Eur. Pat. Appl. EP 392236 A1 19901017, 13 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1990-105610 19900324. PRIORITY: JP 1989-75317 19890327.

GI



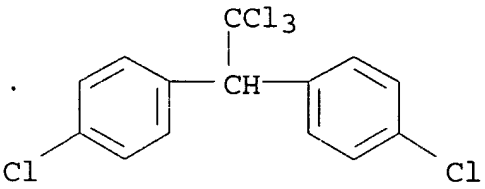
I

AB A process for forming a fine pattern for producing a semiconductor device or an integrated circuit comprises the steps of forming an org. polymer film on a semiconductor substrate, baking, applying a **resist** film consisting of a cyclocarbosilane (I; R1-R4 = H, alkyl), a polymer resin, and a compd. generating an acid upon irradn., baking, imagewise exposing to an electron beam, developing in an alk. soln. to form a **resist** pattern, and etching the org. polymer film while using the **resist** pattern as mask.

IT **50-29-3**, uses
(electron-beam **resists** contg. cyclocarbosilane derivs. and, for semiconductor device fabrication)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST cyclocarbosilane electron beam **resist**

IT Semiconductor devices
(electron-beam **resists** contg. cyclocarbosilane derivs. for prepn. of)

IT **Resists**
(electron-beam, cyclocarbosilane derivs. for)

IT Electric circuits
(integrated, electron-beam **resists** contg. cyclocarbosilane derivs. for prepn. of)

IT **50-29-3**, uses
(electron-beam **resists** contg. cyclocarbosilane derivs. and, for semiconductor device fabrication)

IT 1628-01-9 105064-43-5, Poly(methylsilylene) 138456-13-0
(electron-beam **resists** contg., for semiconductor device fabrication)

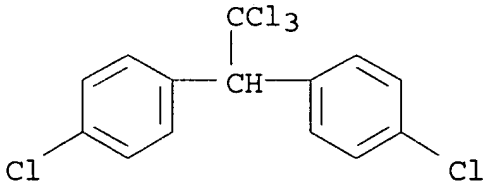
L41 ANSWER 17 OF 35 HCA COPYRIGHT 2003 ACS on STN
114:218111 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Kyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02253260 A2 19901012 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-73995 19890328.

AB The title compns. contain diazo group-contg. compds. and acid-generating compds. activated by active radiation. High sensitivity to UV, far UV, and excimer laser radiation is obtained. Thus, a com. **resist** contg. cresol novolak and naphthoquinonediazide compd. was mixed with 1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane and applied to a Si wafer. Exposure to KrF excimer laser and development with Me4NOH soln. gave pattern with 1.0-.mu.m resoln. and 53 mJ/cm2 sensitivity.

IT **50-29-3**, uses and miscellaneous
(acid-generating agent, diazo-contg. radiation **resists** contg., for high sensitivity)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-022
ICS H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoresist** sensitive acid generating agent; diazo radiation **resist** high sensitivity

IT **Resists**
(radiation-sensitive, diazo-contg., acid-generating agents contained in, for high sensitivity)

IT **50-29-3**, uses and miscellaneous 313-39-3 1678-43-9 57835-99-1
(acid-generating agent, diazo-contg. radiation **resists** contg., for high sensitivity)

IT 95736-23-5 116418-89-4
(pos.-working radiation **resists** contg. acid-generating agents and, for high sensitivity)

L41 ANSWER 18 OF 35 HCA COPYRIGHT 2003 ACS on STN
113:106454 **Photoresist** compositions. Todoko, Masaaki; Yamamoto, Takashi; Nagaoka, Noriko; Kyota, Toru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 02062544 A2 19900302 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-213583 19880830.

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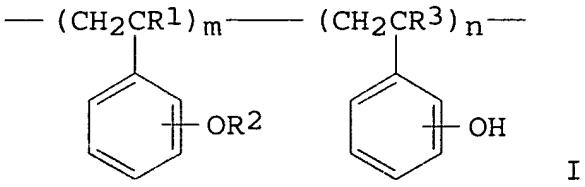


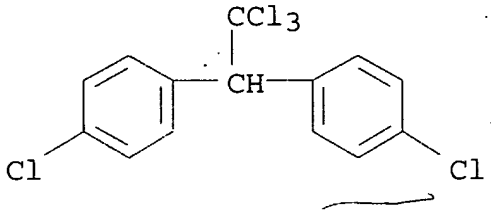
I

AB Pos.-working **photoresists** consist of polymers I [R1, R3 = H, C1-5-alkyl; R2 = C1-10-alkyl; 0.1.gtoreq.(m+n).gtoreq.1], and acid-generating agents activated by active radiations. These **photoresists** provide fine pattern with good profile, using deep UV or excimer laser beam for patterning. Thus, 3 g poly(p-butoxystyrene) and 0.13 g 1,1-bis(p-chlorophenyl) -2,2,2-trichloroethane in cyclohexanone was applied on Si wafer and dried to form a 1-.mu.m-thick layer. Patterning of this **resist** with KrF excimer laser and development with aq. Me4NOH gave pattern with 0.75-.mu.m resoln, with 73 mJ/cm2 dose.

IT **50-29-3**, uses and miscellaneous
(photochem. acid generator, **photoresists** contg. polymers of styrene derivs. and, for patterning with deep UV or excimer laser)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-004
ICS G03F007-023; G03F007-039; G03F007-20

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **photoresist** pos working excimer laser; styrene derivs polymer pos **photoresist**; patterning pos **resist** acid generator

IT **Resists**
(photo-, pos.-working, polymers of styrene derivs., for patterning with deep UV or excimer laser)

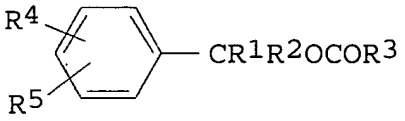
IT **50-29-3**, uses and miscellaneous 313-39-3 1678-43-9 57835-99-1
(photochem. acid generator, **photoresists** contg.

polymers of styrene derivs. and, for patterning with deep UV or excimer laser)

IT 95418-60-3, Poly(p-tert-butoxystyrene) 128761-29-5, p-Hydroxystyrene-p-isopropoxystyrene copolymer
(**photoresists** contg. acid-generators and, for patterning with deep UV or excimer laser)

L41 ANSWER 19 OF 35 HCA COPYRIGHT 2003 ACS on STN
112:226815 Positive-working **photoresist** compositions.
Yamamoto, Takashi; Kyota, Toru; Todoko, Masaaki; Nagaoka, Keiko (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300250 A2 19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-130075 19880530.

GI



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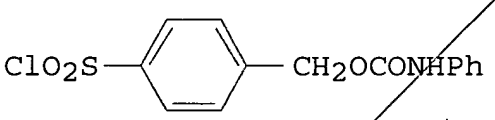


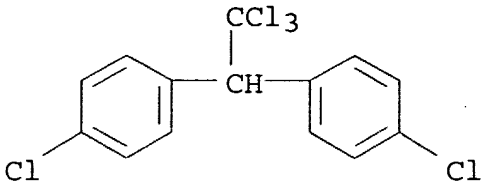
II

AB The title compns contain (a) alkali-sol. resins contg. siloxy groups, (b) sensitizers I [R1-2 = H, alkyl, R6-substituted Ph, R7/R8- disubstituted naphthyl; R3 = alkyl, alkenyl, hydroxyalkyl, R16-substituted Ph, R17/R18-disubstituted naphthyl, alkylamino, R26-substituted phenylamino, R27/R28-disubstituted naphthylamino; R4-5 = H, alkyl, alkoxy, NO2, nitroso, NH2, OH, Ph; R-groups excepting R1-5 = H, alkyl, alkoxy, NO2. nitroso, NH2, OH, Ph], and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, II 1.2, and 1,1-di(p-chlorophenyl)-2-trichloroethane 0.3 g was applied on Si wafer, and the layer was prebaked, patternwise exposed with KrF excimer laser, developed with aq. Me4NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.mu., with sensitivity 128 mJ/cm2.

IT **50-29-3**, uses and miscellaneous
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

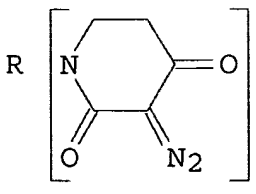
RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)

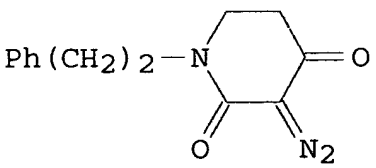


IC ICM G03C001-72
ICS G03C001-71
ICA G03C005-16
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST **photoresist** siloxy modified polyhydroxy styrene; UV excimer laser **photoresist** sensitizer
IT **Resists**
(photo-, poly(p-hydroxystyrene), siloxy-contg., sensitizer and acid-generating agents for, for patterning with deep UV)
IT **50-29-3**, uses and miscellaneous 1678-43-9 80134-77-6 104434-07-3
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)
IT 39508-04-8 125091-03-4
(**photoresists** contg. siloxy-contg. polymers and, for patterning with deep UV)
IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane
(**photoresists** contg., for patterning with deep UV)

L41 ANSWER 20 OF 35 HCA COPYRIGHT 2003 ACS on STN
112:226814 Positive-working **photoresist** compositions.
Yamamoto, Takashi; Kyota, Toru; Todoko, Masaaki; Nagaoka, Keiko (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300249 A2 19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-130074 19880530.
GI



I



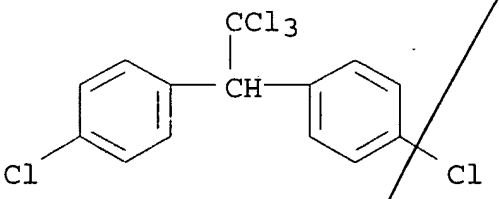
II

AB The title compns. contain (a) alkali-sol. resins contg. siloxy groups, (b) diazohomotetramic acid derivs. I (R = n-valent org. group; n = 1-6), and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, II 1.2, and 1,1-di(p-chloro phenyl)-2-trichloroethane 0.3 g was applied on Si wafer, and the layer was prebaked, patternwise exposed with KrF excimer laser, developed with aq. Me4NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.mu., with sensitivity 118 .mu.J/cm2.

IT **50-29-3**, uses and miscellaneous
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C001-72
ICS G03C001-71

ICA G03C005-16

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **photoresist** alkylsiloxystyrene polymer; UV excimer laser **photoresist** sensitizer

IT **Resists**
(photo-, poly(hydroxystyrene), siloxy-contg., sensitizers and acid-generating agents for, for patterning with deep UV)

IT **50-29-3**, uses and miscellaneous 1678-43-9 80134-77-6 104434-07-3
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

IT 95736-23-5 127067-15-6
(**photoresists** contg. siloxy-contg. polymers and, for patterning with deep UV)

IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with

trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane
(**photoresists** contg., for patterning with deep UV)

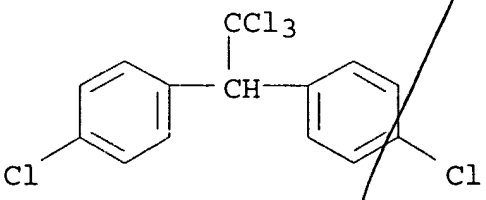
L41 ANSWER 21 OF 35 HCA COPYRIGHT 2003 ACS on STN
112:207989 Positive-working **photoresist** compositions.
Yamamoto, Takashi; Kyota, Tooru; Todoko, Masaaki; Nagaoka, Keiko (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 01300248 A2 19891204 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-130073 19880530.

AB The title compns. contain (a) alkali-sol. resins contg. siloxy groups, (b) sensitizers R1COC(:N2)COR2 [R1 = alkyl, R3-substituted Ph, R4, R5 = disubstituted naphthyl; R2 = alkyl, alkenyl, hydroxyalkyl, R13-substituted Ph, R14, R15 = disubstituted naphthyl, alkoxy, R23-substituted phenoxy, R24, R25 = disubstituted naphthoxy, alkylamino, R33-substituted phenylamino, R34, R35 = disubstituted naphthylamino; R-groups excepting R1-2 = H, alkyl, alkoxy, NO2, nitroso, NH2, OH, Ph], and (c) photo-activated acid-generating compds. These **resists** are transparent to deep UV and provide highly resolved **resist** pattern with good profile. Thus, poly(p-hydroxystyrene) was treated with trimethylchlorosilane to obtain polymer with 32 mol% p-trimethylsiloxystyrene unit. A soln. contg. this polymer 6.0, PhCOC(:N2)COOEt 1.2, and 1,1-di(p-chlorophenyl)-2-trichloroethane 0.3 g was applied on Si wafer, and the layer was prebaked, pattern-wise exposed with KrF excimer laser, developed with aq. Me4NOH, and rinsed in water, to obtain a pattern with rectangular profile resolving 0.5-.mu., with sensitivity 121 mJ/cm2.

IT **50-29-3**, uses and miscellaneous
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03C001-72
ICS G03C001-71

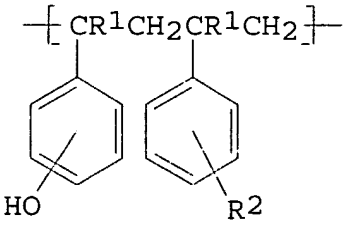
ICA G03C005-16

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST **photoresist** siloxy modified polyhydroxy styrene; UV excimer laser **photoresist** sensitizer

IT **Resists**
(photo-, poly(hydroxystyrene), siloxy-contg., sensitizers and acid-generating agents for, for patterning with deep UV)
IT **50-29-3**, uses and miscellaneous 1678-43-9 80134-77-6 104434-07-3
(**photoresists** contg. siloxy-contg. polymers and sensitizers and, for deep-UV patterning)
IT 28383-65-5 126948-12-7
(**photoresists** contg. siloxy-contg. polymers and, for patterning with deep UV)
IT 75-77-4D, Trimethylchlorosilane, reaction products with hydroxyphenyl-contg. polymers 9016-83-5D, Cresol-formaldehyde copolymer, reaction product with trimethylchlorosilane 24979-70-2D, Poly(p-hydroxystyrene), reaction product with trimethylchlorosilane 24979-71-3D, p-Hydroxystyrene-methyl methacrylate copolymer, reaction product with trimethylchlorosilane 51032-74-7D, reaction product with trimethylchlorosilane
(**photoresists** contg., for patterning with deep UV)

L41 ANSWER 22 OF 35 HCA COPYRIGHT 2003 ACS on STN
111:67941 Silylated poly(vinylphenol) **photoresist**. Cunningham, Wells Crassous (Shipley Co., Inc., USA). Eur. Pat. Appl. EP 285025 A2 19881005, 13 pp. DESIGNATED STATES: R: DE, FR, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1988-104834 19880325. PRIORITY: US 1987-32420 19870330.
GI



I

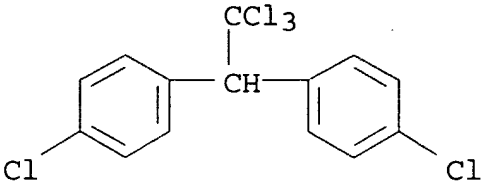
AB A pos.- or neg.-working **photoresist** which is used in the fabrication of semiconductor and electronic devices utilizing the photolithog. process comprises a silylated polymer having the structural unit I [R1 = H, Me; R2 = OH, ZSiR3R4R5 where Z = O, O(CH2)n with n = 1-4; R3, R4, R5 = C1-4 alkyl, aryl, benzyl] and a mol. wt. of 2700-22,000 and a Si content of 3-12% and .gtoreq.1 acid-forming sensitizer comprising a nonmetallic compd. which releases an acid upon light irradn., the anion of the acid having an affinity for Si. The silylated polymer used in the **photoresist** is prepd. by silylating poly(vinylphenol). The acid-forming sensitizer is selected from 1,1-bis(4-chlorophenyl)-2,2,2-trichloroethane, tris(2,3-dibromopropyl)isocyanurate, tetrabromocyclohexadieonone, tetraiodomethane, 2,3,5-triiodobenzoic acid, and diiodosalicylic acid. The **photoresist** may also

contain a 2nd sensitizer selected from esters and amides of o-quinonediazide sulfonic or carboxylic acids. The **resist** pattern obtained from the **photoresist** may be subjected to an O plasma to form a SiO2 dielec. layer.

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties
(**photoresist** contg. silylated poly(vinylphenol) and)

RN 50-29-3 HCA

CN Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro- (9CI) (CA INDEX NAME)



IC ICM G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

ST **photoresist** silylated vinylphenol polymer

IT Semiconductor devices
(**photoresist** compns. contg. silylated poly(vinylphenol) and acid-forming sensitizer for fabrication of)

IT **Resists**
(photo-, contg. silylated poly(vinylphenol) and acid-forming sensitizer)

IT 59269-51-1D, reaction product of, with alkyl silanes
(**photoresist** contg. acid-forming sensitizer and)

IT 1321-04-6 52434-90-9, Tris(2,3-dibromopropyl)isocyanurate 120705-57-9
(**photoresist** contg. silylated poly(vinylphenol) and)

IT **50-29-3**, 1,1-Bis(4-chlorophenyl)-2,2,2-trichloroethane, properties 88-82-4, 2,3,5-Triiodobenzoic acid 507-25-5, Carbon tetraiodide
(**photoresist** contg. silylated poly(vinylphenol) and)

IT 879-15-2D, derivs.
(**photoresist** contg. silylated poly(vinylphenol) and acid-forming sensitizer and)

=> d l42 1-26 ti

L42 ANSWER 1 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Modified yeast two-hybrid assay to evaluate the estrogenic activity of environmental samples

L42 ANSWER 2 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Selective cellular targeting: multifunctional delivery vehicles

L42 ANSWER 3 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Studies on development of protective clothing for pesticide users - application of pesticides, clothing used by the malaria control program workers and their related health problems

L42 ANSWER 4 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Immunochemical approach to the detection of aminotriazoles using selective amino group protection by chromophores

L42 ANSWER 5 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Protective effectiveness of functional additions to motor oils

L42 ANSWER 6 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI An electrophysiological investigation of the susceptible (Cooper) and resistant (kdr; super-kdr) strains of the adult housefly, Musca domestica L

L42 ANSWER 7 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Formation of patterned polymer layers

L42 ANSWER 8 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Effects of 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane (DDT) on ATPase-linked functions in isolated rat liver mitochondria

L42 ANSWER 9 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Persistence and transfer of 36Cl-DDT in the soil and biota of an old-field ecosystem: a six-year balance study

L42 ANSWER 10 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Effect of body weight on lethal dose estimates for the western spruce budworm

L42 ANSWER 11 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Mineral and organic pollutants in sample sediments between Corsica and the main land (Mission BIOMEDE 1)

L42 ANSWER 12 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI In vitro effects of organochlorine pesticide (DDT) on catalytic potential of SDH in gastrocnemius muscle of frog, Rana hexadactyla

L42 ANSWER 13 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Antiwear and antiseize additives for complex calcium lubricating greases

L42 ANSWER 14 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Activity of some enzymes of tissue respiration in developing resistance to DDT in Musca domestica in the presence of sublethal doses

L42 ANSWER 15 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Degradation and disappearance of ortho, para isomer of technical DDT

in living and dead avian tissues

L42 ANSWER 16 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Outbreaks of two-spotted spider mites and cotton aphids following pesticide treatment. I. Pest stimulation vs. Natural enemy destruction as the cause of outbreaks

L42 ANSWER 17 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Collaborative study of a method for multiple chlorinated pesticide residues in nonfatty vegetables

L42 ANSWER 18 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Toxicity of economic poisons toward man and warm-blooded animals

L42 ANSWER 19 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Control of houseflies with methoxychlor in Texas dairy barns

L42 ANSWER 20 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI [Floriculture] pest control 1951-outlook for 1952

L42 ANSWER 21 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Aerosols for control of pests in the greenhouse

L42 ANSWER 22 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Experimental lesions from petroleum sprays

L42 ANSWER 23 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI A new insecticide to control turf insects

L42 ANSWER 24 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Cyclocephala borealis as a turf pest associated with the Japanese beetle in New York

L42 ANSWER 25 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI Toxicity of DDT applied to limewash

L42 ANSWER 26 OF 26 HCA COPYRIGHT 2003 ACS on STN
TI DDT-caution

=> d l42 7 cbib abs hitstr hitind

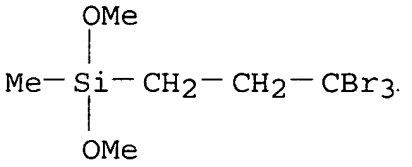
L42 ANSWER 7 OF 26 HCA COPYRIGHT 2003 ACS on STN
107:68154 Formation of patterned polymer layers. Kuwae, Yoko; Haruta, Masahiro; Yuasa, Satoshi; Munakata, Hirohide (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 61290445 A2 19861220 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-132489 19850618.
AB The title formation method involves coating of substrates with a silane coupling agent that produces free radicals by irradn., coating with monomer, and patterning by selective irradn. The nature of the polymer layer can be freely controlled and the layer formed are strongly bonded to the substrates. Thus, a glass plate

was immersed in EtOH contg. 50 mmol Br(CH2)3Si(OMe)3 (per 100 mL) and 5% HOAc for 24 h and dried. A 1-.mu. layer of Me acrylate was spin-coated and exposed to 300 nm UV through a pattern **mask** . Rinsing in acetone-ethyl ether gave apolymer pattern.

IT **109678-78-6**
(pattern formation with undercoat layer from)

RN 109678-78-6 HCA

CN Silane, dimethoxymethyl(3,3,3-tribromopropyl)- (9CI) (CA INDEX NAME)



IC ICM G03C001-74
ICS C08F002-48; G03C005-00; G03F007-16; H01L021-30

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 14867-28-8 **109678-78-6**
(pattern formation with undercoat layer from)

WEST

End of Result Set

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L8: Entry 2 of 2 File: DWPI Nov 6, 1974

DERWENT-ACC-NO: 1975-46668W
DERWENT-WEEK: 197528

TITLE: Crystal pattern coating compn - contg butylphenol salicylate and/or trichlomethyl-benzylacetate and fine silica

PATENT-ASSIGNEE:

ASSIGNEE	CODE
OHASHI CHEM IND LTD	OHASN

PRIORITY-DATA: 1973JP-0029264 (March 12, 1973)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 49116135 A	November 6, 1974		000	
JP 76020048 B	June 22, 1976		000	

INT-CL (IPC): C09D 5/28

ABSTRACTED-PUB-NO: JP 49116135A
BASIC-ABSTRACT:

The coating compsn. contains p-tert.-butylphenyl salicylate (I) and/or (trichloromethyl)benzyl acetate (II), org. solvents, binders pigments, and fine silica. In an example, a compsn. of 50% solics acrylic resin 200, blue pigments 7, fine silica 1, (I) 60, (II) 120, EtOAc 480, 1,4-butanediol 280, and hexamethylene glycol 100g. at 40-50 degrees was applied to a Zn3(PO4)2-treated steel and left 30 mins. for crystalsn. The plate was top coated with a mixt. of oil-free alkyd resin 480, butylated melamine resin 120, and TiO2 400 g., left 5-10 mins., and baked 30 mins. at 120 degrees to give a coating with crystal pattern.

TITLE-TERMS: CRYSTAL PATTERN COATING CONTAIN SALICYLATE FINE SILICA

DERWENT-CLASS: A82 E14 G02

CPI-CODES: A12-B01; E10-E02F; E10-G02F; E31-P03; G02-A05;

CHEMICAL-CODES:

Chemical Indexing M3 *01*
Fragmentation Code
J2 M121 M136 M210 M211 M231 M233 M240 M260 M281
M311 M332 M331 M322 M320 M342 M340 M344 M350 M370
M391 G100 M532 M531 H401 H441 J231 J271 H602 H609
M510 J0 Q335 Q337 M520 M540 Q464 M782 R043 M414
M902

Chemical Indexing M3 *02*
Fragmentation Code
C800 C108 C803 C802 C807 C805 C804 B720 B831 B114
B702 Q335 Q337 Q464 M782 R043 M411 M902

Multipunch Codes: 012 03& 04- 043 074 139 143 146 185 189 229 231 240 305 308 310 316 332 364 365 398 42- 431 44& 443 47& 477 575 577 688 721

WEST

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L7: Entry 1 of 26 File: USPT Dec 3, 2002

DOCUMENT-IDENTIFIER: US 6489273 B1
TITLE: Fragrance compositions containing 2-cyclohexyl-1,1-dimethyl ethanol esters

Detailed Description Paragraph Table (2):
TABLE 2 geranium oil 15 patchouly oil 15 decylaldehyde 10 10-undecenyl aldehyde 20 gamma-undecalactone 5 styrallyl acetate 20 phenyl ethyl alcohol 150 1-citronellol 100 benzyl acetate 50 2-methyl-3-(4-t-butylphenyl) propanal 100 eugenol 30 gamma-methyl ionone 100 alpha-(trichloromethyl) benzyl acetate 30 3 alpha, 6,6,9 alpha-tetramethyl 5 dodecahydronaphtho[2,1-b] furan 10% DPG solution coumarin 50 6-acetyl-1,1,2,4,4,7-hexamethyltetralin 50 750

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L7: Entry 10 of 26 File: USPT Dec 30, 1997

DOCUMENT-IDENTIFIER: US 5703250 A
**** See image for Certificate of Correction ****
TITLE: Odorants

Detailed Description Paragraph Table (5):

parts by Ingredient weight
(1RS,2SR,4RS)-2'-Isopropyl-1,7,7-trimethyl-spiro[bicyclo-[2.2.1]heptane-2,4'-(1,3-dioxane)] (compound Ih)	30
Benzyl acetate	60
Linalyl acetate	3
Para-tert-butylcyclohexyl acetate	150
Phenylethyl alcohol	85
.alpha.-Hexyl cinnamic aldehyde	126
Cyclamen aldehyde	5
Alismone (2-Heptyl-cyclopentanone)	1
Anethole	2
Benzophenone	12
Cetalox	1
Citronellol	15
Cyclal C* (2,4-Dimethyl-3-cyclohexene-1-carbaldehyde)	8
Dihydromyrcenol	23
Dipropylene glycol	140
Ethylvanillin*	3
Fixolide	12
cis-3-Hexenyl formate	1
Galaxolide (1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-hexamethyl-cyclopenta-[g]-2-benzopyran)	60
DEP (diethyl phthalate)	50
Galbex	183
Gardenol	5
Hedione	3
3-cis-Hexenol*	10
.beta.-Ionone	8
Isoeugenol	10
Lavandin grosso essence	6
Lilial	120
Linalool synth.	3
Musk ketone	5
N	112
* (4-(4-Hydroxyphenyl)butan-2-one)	4
Nerol extra	4
Nonadienal 1% sol. in triethyl citrate	3
Allyl oenanthate	10
Orange essence	45
Peach pure (.gamma.-Undecalactone)	5
Phenylethyl phenylacetate	6
Rosacetol (.alpha.-(trichloromethyl)benzyl acetate)	25
Rosaphen	25
Rosoflor 2 (Geraniol)	5
Amyl salicylate	65
Cyclohexyl salicylate	45
cis-3-Hexenyl salicylate	5
Hexenyl salicylate	110
Tetrahydrolinalool	6
	1280

*10% solution in dipropylene glycol

WEST

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L7: Entry 11 of 26 File: USPT Sep 16, 1997

DOCUMENT-IDENTIFIER: US 5668080 A
TITLE: Thermally-responsive record material

Brief Summary Text (16):
While the benzyl acetate used in the invention is a known material described in such patents as U.S. Pat. Nos. 5,180,709 and 5,214,160 it has heretofore been used in the context of perfumes. Surprisingly the material has remarkable properties beneficial to manufacture of improved thermal record material according to the invention. Benzyl acetate according to formula 1 is commercially available from chemical specialty manufacturers such as Aldrich Chemical, Milwaukee, Wis., alternatively would be able to be synthesized by one skilled in the art. The benzyl acetate can be named as 7-(trichloromethyl)-benzyl acetate. This material can be synthesized from benzyl acetate for example by condensing benzyl acetate with a trichloromethyl alcohol. Other synthetic routes would be apparent to the artisan having skill in the synthetic arts. The invention resides in the surprising combination of this material within a thermally imaged record material.

Detailed Description Paragraph Table (1):
Dispersion A - Chromogenic Material is N-102 3-diethylamino-6-methyl-7-anilinofluoran Parts N-102 94.95 PVA, Vinoll 205 20% in Water 81.00 Nopco NDW 0.23 Surfynol 104 1.13 Water 122.69 Dispersion B - Acidic Material is AP-5 2,2-bis(4-hydroxyphenyl)-4-methylpentane AP-5 102.00 PVA, Vinol 205 20% in Water 87.00 Nopco NDW 0.12 Surfynol 104 0.48 Water 153.26 Dispersion C1 - Sensitizer is ROSA 7-(trichloromethyl)-benzyl acetate ROSA 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C2 - Sensitizer is DPE 1,2-diphenoxyethane DPE 89.25 PVA, Vinol 205 20% in Water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C3 - Sensitizer is DMT dimethylterephthalate DMT 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C4 - Sensitizer is DBO di-benzyl oxalate DBO 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C5 - Sensitizer is PHNT phenyl-1-hydroxy-2-naphthoate PHNT 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Dispersion C6 - Sensitizer is PBBP p-benzyl biphenyl PBBP 89.25 PVA, vinol 205, 20% in water 76.13 Nopco NDW 0.11 Surfynol 104 0.42 Water 134.09 Test Formulation Material Parts Example 1 Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C1 (ROSA) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 2 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C2 (DPE) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 3 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C3 (DMT) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 4 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C4 (DBO) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 5 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C5 (PHNT) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85 Example 6 (comparative) Dispersion A (N102) 0.75 Dispersion B (AP-5) 2.69 Dispersion C6 (PBBP) 2.69 Filler 1.12 PVA, Vinol 325, 10% 4.87 Zinc stearate, 23.3% 1.03 Water 6.85

60 C. 40 C.-90% RH UV Light Fingerprint 24 hr
10 Day 10 Day 10 Day
Example 1 -16.00% -17.00% -10.00% -31.00%
Example 2 -20.00% -19.00% -15.00% -35.00%
Example 3 -18.51% -29.10% -21.66% -29.89%
Example 4 -26.00% -22.00% -22.73% -31.08%
Example 5 -20.64% -23.64% -21.11% -30.18%
Example 6 -19.06% -26.00% -21.84% -29.87%

Note: The lower % change the more stable

CLAIMS:

9. A thermally responsive record material comprising a support having provided thereon in substantially contiguous relationship an electro-donating dye precursor, an acidic developer material, 7-(trichloromethyl)benzyl acetate, and a suitable binder therefore.

WEST

Generate Collection Print

L7: Entry 12 of 26 File: USPT May 25, 1993

DOCUMENT-IDENTIFIER: US 5214160 A
TITLE: Acetyl-tri-and-tetramethyl-octahydronaphthalenes and fragrance compositions containing same

Brief Summary Text (15):
esters, such as allyl phenoxyacetate, benzyl salicylate, cinnamyl propionate, citronellyl acetate, citronellyl ethoxalate (citronellyl.O--CO--CO.OC.sub.2 H.sub.5), decyl acetate, dimethylbenzylcarbinyl acetate, dimethylbenzylcarbinyl butyrate, ethyl acetoacetate, ethyl acetylacetate, hexenyl isobutyrate, linalyl acetate, methyl dihydrojasmonate, styrallyl acetate, vetiveryl acetate, (Givescone.TM. (Givaudan) 2-ethyl 6,6 dimethyl (and 2,3,6,6 tetramethyl) 2 cyclohexene 1-carboxylic acid ethyl ester, Rosacetol.TM. (Givaudan) (trichloromethyl benzyl acetate), Vetynal.RTM. (Givaudan) (acetylated caryophyllene).

WEST

End of Result Set

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L7: Entry 26 of 26 File: USPT Jan 25, 1972

DOCUMENT-IDENTIFIER: US 3637533 A
TITLE: PERFUME-CONTAINING COMPOSITIONS CONTAINING CERTAIN OXIMES AS OLFACTORY AGENTS

Detailed Description Paragraph Table (24):
Citronellol 234 Phenylethyl alcohol 106 Geraniol 244 Rhodinol 96 Laurine 116
Guaiacwood concrete 13 Eugenol 6 Irisone 58 Cinnamic alcohol 5 Phenylacetic acid 1
Undecylenic aldehyde 1 .alpha.-(trichloromethyl) benzyl acetate 46 Citral 24
3,7-dimethyloctanal oxime 50 Total 1,000